Educational Screen

Combined with

Visual Instruction News

OCTOBER, 1932

VOLUME XI NUMBER 8

CONTENTS

The Sources and Uses of Visual Aids in the Teaching of Biology. Howard L. Reed 228

Visual Aids in an Assembly Program. Homer G. Shattuck 230

New Developments in Visual Aids. Sarah A. Hine 232

Objective Presentation in Educational Procedure. Stella E. Myers 233

Government Activities in the Visual Field. Conducted by Margaret A. Klein 235

Department of Visual Instruction Notes. Conducted by Ellsworth C. Dent 237

Film Production Activities 239

News and Notes. Conducted by Josephine Hoffman 240

Among the Magazines and Books. Conducted by Marion F. Lanphier 242

The Film Estimates 244

The Church Field. Conducted by R. F. H. Johnson 245

Supplementary References for Students of Visual Instruction. Joseph J. Weber 246

School Department. Conducted by Dr. F. Dean McClusky 248

Among the Producers 254

Here They Are! A Trade Directory for the Visual Field 256

Contents of previous issues listed in Education Index.

THE EDUCATIONAL SCREEN, Inc.

DIRECTORATE AND STAFF

Herbert E. Slaught, Pres. — Dudley G. Hays
Frederick J. Lane, Treas. — Stanley R. Greene
Nelson L. Greene, Editor — Joseph J. Weber
Ellsworth C. Dent, Manager — R. F. H. Johnson
Evelyn J. Baker — Marion F. Lanphier
Josephine Hoffman — F. Dean McClusky
Otto M. Forkert — Stella Evelyn Myers

General and Editorial Offices, 64 East Lake St., Chicago, Illinois. Office of Publication, Morton, Illinois. Entered at the Post Office at Morton, Illinois, as Second Class Matter

Copyright, October, 1932, by the Educational Screen, Inc.

Published every month except July and August.

$2.00 a Year (Canada, $2.75; Foreign, $3.00) Single Copies, 25 cts.

The Sources and Uses of the Visual Aids in the Teaching of Biology

HOWARD L. REED

IF THERE be any one subject which it would be impossible to teach properly without the use of visual aids it is the subject of Biology. Within the limits of this article it would of course be impossible to cover thoroughly the sources and uses of all visual aids available, such as field trips, pictures, charts, models, blackboard diagrams, dissecting microscope, hand lens, the compound biological microscope, the micro-projector, the Balopticon (Stereopticon), and the motion picture film. I shall consider chiefly, therefore, visual aid material to be used with the biological microscope and the micro-projector. Realizing that many teachers are concerned with the teaching of Biology in the Junior and Senior High Schools I shall attempt to cover the subject in such a manner that this article may be of value to them in obtaining and preparing materials for such laboratory work as they may have time and use for.

While much of this material for laboratory and demonstration work may be purchased it is easy for the teacher to prepare and obtain most of it himself and thus conserve finances. Generally it is very interesting to the teacher to prepare the material himself and also I believe that the student enjoys studying living material far better than stained mounts of such things as Paramoecium, Amoeba, etc., because after all Biology is a vital subject. In my opinion the proper use of visual aids in the biological laboratory will make every student a lover of the subject of Biology. Too often there is a lack of proper materials (generally unnecessarily so), or if it is available it is not used properly and to best advantage by the teacher. I shall not only try to explain the simplest means of obtaining good laboratory material for microscopic work and micro-projection work but also to explain what seems to me to be the best method of using and presenting the material.

In regard to the micro-projector, which I shall consider mainly in this article, I would mention the following important facts:

(1) It is used to demonstrate material and show it to the student so that the teacher may be certain that the student will see the proper organism or organisms or tissue when using the microscope in the laboratory individually,

(2) That it is an essential piece of apparatus if the students do not individually have a compound microscope,

(3) To stimulate interest in the subject and prevent the characteristic despondency of new students of the subject who always have difficulty in "knowing what to look for" under the biological microscope when they are working independently (often we cannot be sure that they are really seeing what we want them to see).

Pictures, Charts, Models, Blackboard Diagrams

These constitute a most resourceful and valuable form of the visual aids and I believe that the proper use of them cannot be overestimated. In regard to this phase I shall name some of the best sources of these visual aids, such as: The General Biological Supply House, Clay Adams and Company, Inc., Dennoyer-Geppert Company, E. B. Muller and Company, A. J. Nystrom and Company, Perry Pictures Company, Waverly Company, Boston Society of Natural History, George H. Conant, and W. M. Welch Scientific Company.

Blackboard diagrams should be used continually to illustrate structures and this is a matter for each individual teacher to develop to the best of his or her own personal ability. Careful labeling of diagrams should always be emphasized.

Microscopes

Hand lens and dissecting microscopes may be obtained from any reputable optical house such as the Spencer Lens Company, or Bausch and Lomb Optical Company. These pieces of apparatus are essential for the examination of flower parts and small structures that are not readily discerned with the naked eye.

Each student should have a compound Biological microscope. It should be equipped with one low power (16 mm.) objective, one high power (4 mm.) objective and one 10 X ocular in order to achieve satisfactory results in the microscopical examination of micro-organisms or plant tissues. Spencer Lens and Bausch & Lomb both supply a very good type (conforming to above mentioned requirements) for about $70.00. This piece of biological apparatus will last indefinitely if cared for properly and thus while the initial cost may be somewhat high the upkeep is practically nothing.

Stereopticons and Slides

The Balopticon represents another invaluable visual aid to the biology teacher and should be used very extensively. Good machines may be obtained from the Spencer Lens Company or Bausch and Lomb Optical Company.

I shall list the names of several companies who supply excellent slides for these machines and who will

gladly send catalogues to interested teachers gratis. However, the teacher may very cheaply prepare lantern slides himself or herself and in many cases to suit his or her particular demands better than those to be purchased. The following non-commercial sources afford a very good assortment of material to choose from: American Museum of Natural History, 77th St. and Central Park, West, New York City, N. Y.; Buffalo Society of Natural Sciences, Buffalo, New York; Indiana University, Bloomington, Indiana; Iowa State College, Ames, Iowa; Mass. Dept. of Public Health, University Extension, State House, Boston, Massachusetts; United Fruit Company, 1 Federal Street, Boston, Massachusetts; United States Dept. of Agriculture, Washington, D. C., and University Extension Division, University of Wisconsins, Madison, Wisconsin.

There are, of course, many commercial companies specializing in supplying educational slides, such as Keystone View Company, Jas. C. Muir, Williams, Browne and Earle, C. W. Briggs & Company, Spencer Lens Company, and others.

Motion Picture Films

This type of visual aid is excellent and can not be overemphasized. Its use will increase tremendously without doubt, as soon as more material becomes available for the subject of Biology. The following companies supply excellent material of this type, and many of the films may be rented as well as purchased: Bell and Howell Company, Bray Products Company, Carter Cinema Producing Company, Eastman Teaching Films, Inc., National Motion Pictures Company, and Powers Pictures.

The Source and Preparation of Living Cultures

The source of this type of material, is of course, practically unlimited and my hope is to cover such parts or material as will be of value to the teacher in the average introductory courses of Botany and Zoology.

For this work the teacher should collect his or her own material, and when possible take students along and show them the sources of the material and thus fix important and interesting parts of the subject in their minds. Every student should be taught how to collect material and to have a fair knowledge of the flora and fauna in his particular locality.

The teacher should provide himself or herself with a copy of Ward and Whipple's "Fresh Water Biology" (published by John Wiley and Bros., Inc., Philadelphia, Pa.), which is an excellent reference work to use in the identification of plants and animals commonly found in fresh water. A copy of Gray's "Manual of Botany" is essential in identifying the higher plants (published by American Book Co., Boston).

Algae and Protozoans are very abundant in all streams, rivers, ponds, pools, etc., and the teacher should examine material from these places in nearby localities to obtain what he needs for his course (in the nature of living material). Of course one can collect this material in some of the pond water and it will keep very well for a day or two if it is going to be used within that time for micro-projection purposes or class room microscopic work. However, the best way is to start a small aquarium and then these materials may be grown and kept for several months or even indefinitely with proper attention and then the teacher will have his material at any time desired without the necessity of a special field trip.

I started a 13 gallon aquarium this last fall and had scores of species of organisms available for nearly five months. The aquarium should be kept in a light place if one wishes algae to thrive. For animal life (other than the microorganisms from the river), to keep the aquarium balanced, I used two goldfish and two small turtles, and for vegetable matter (other than the microorganisms), I used Elodea, Cabomba, Myriophyllum and Sagittaria plants.

If one does not wish to keep an aquarium the following solutions may be used to advantage in keeping organisms in good condition for a week or two:

Moore's Solution

Ammonium Nitrate	0.5 Grams
Potassium Phosphate	0.2 Grams
Magnesium Sulphate	0.2 Grams
Calcium Chloride	0.1 Grams
Iron Sulphate	a trace

Knop's Solution

Potassium Nitrate	1 Gram
Pot. Phosphate (K_2HPO_4)	1 Gram
Magnesium Sulphate	1 Gram
Calcium Nitrate	3 Grams
Chloride of Iron	a trace

Dissolve the first three items in 1 liter of distilled water. Add the Calcium Nitrate (a white precipitate will be formed). When a more dilute solution is made from this stock solution, the bottle must be shaken thoroughly in order that a proper amount of the precipitate may be included in the diluted solution. The above formula makes a 0.6% solution and this is used where vegetative growth is desired, while a 0.2% solution is best for showing reproductive processes and rapid cell division.

Most teachers desire at some time or other to grow their own culture of Amoeba, Paramoecium and Euglena and thus obtain excellent material for micro-projection and so I shall outline methods for growing cultures of these microorganisms.

Dr. J. A. Dawson in a paper in the American Naturalist, gives minute instructions for rearing amoeba. The following is a summary of his suggestions:

1. Collect a quantity of water and pond weeds from ponds or sluggish streams nearby. (We have found that lily pads and colonies of oscillaria growing in stagnant ponds are a prolific source of amoeba.)

2. Place about 30 to 40 cc. of the collected water

(*Concluded on page* 231)

Visual Aids In An Assembly Program

HOMER G. SHATTUCK

A GOOD assembly program is the heart of any well organized school. It must be interesting, inspirational, entertaining, and educational. The only way such endeavors can hope to succeed is by appeal to the pupils through sight and sound.

The Rye High School is fortunate in having a beautiful, thoroughly equipped auditorium. In it we have worked out two types of assembly programs around which the development of school spirit grows.

In the informal assembly there is light or familiar music coming through our sound system as the pupils enter. After a few announcements, the program is turned over to the musical director. Here is the place in which we use music slides. This visual aid has many advantages. In a semi-darkened room, the center of attention is on the screen. The director can actually point to the notes if he is teaching a new song. He is also in a position to be seen simultaneously with the song. Sometimes the singing is accompanied by the music of the best orchestras.

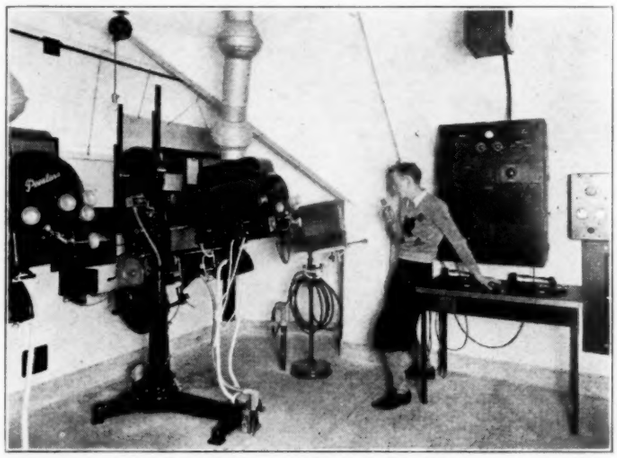
We do not sing at every informal assembly however. Often there is a speaker who uses both slides and movies to illustrate his lecture. Sometimes there is just a sound movie for entertainment. Our sound equipment also helps in incidental talks and discussions of school business by the principal as well as the practicing of cheers and selling campaigns. A glimpse at our projection and control room shows how we are able to do this.

In our formal assembly an organ selection instead of familiar music is playing as the pupils enter. As the organ music fades, the lights fade, curtains part, and a shrill bugle call sounds, "To The Colors". Here Boy Scouts in uniform, standing in a subdued red or purple light hold the two flags. The school rises and the salute follows. "Taps" is softly played as the flags are taken to their standards. This is so timed that as the boys are back in position, "Taps" is finished and the large curtain almost closed. To hold attention, bright red foot lights now come on the curtain. Almost immediately we hear organ music, this time religious. The foot lights fade, the curtain opens, and we see a red Bible with only two red spots lighting the whole scene. Against that background of soft organ music comes a voice. It is the principal who leads the Bible reading and the Lord's Prayer. The voice against the organ music is truly inspirational. Heads rise after the prayer and the organ swells in volume until the end of the selection. The scene fades out as the curtains close and the house lights are brought up.

This whole demands a perfect synchronization of events which can be attained by a system of signal lights or by electric clocks. It is evident that these scenes take longer to explain than to execute. The whole does not run over four or five minutes but the appeal certainly arouses a sense of unity and cooperation to one end.

The extraordinary things about this serious part of our formal assembly which I have described is:

1. it takes place without any teachers being seen
2. that through our own actual experience we have discovered that our pupils give to this part of the program most unusual and reverent attention
3. that schools fail to realize the tremendous value of that loose term, "mass psychology". I am not a student of psychology. Certainly I cannot explain "mass psychology" but I do know, however, that concentration of attention through sight and sound will produce effects which would seem impossible under any other circumstances.



Projection and Control Room

During the remainder of the assembly period there may be a stage presentation prepared by one of the different departments or possibly an exchange program; an orchestra, band, or play from another school. This incidentally offers a splendid opportunity for development of school spirit and good sportsmanship. Occasionally a professional entertainer, traveler, or speaker gives the remainder of the program.

You may have begun to wonder about our sound outlets. Two sets are used, the proscenium (back of the grill on each side) and the movie (on the stage). The proscenium speakers, being double

dynamic on each side, are used almost exclusively for the assembly programs. The projection screen drops immediately in front of the movie speakers for regular "talkie" entertainments. The author maintains a Stagecraft club of pupils who are trained to operate this equipment and handle the program. This offers very valuable practical experience for those interested in this type of work.

If we are to accomplish our aim in the assembly program, we must appeal to the pupils. Most schools lack a sense of showmanship, a plan, the courage to attempt something different or to dare the unusual. They neglect to look ahead, to have a schedule, to utilize the really most important opportunity: that of a united school in one auditorium. I know of no better place for visual work than to make this very heart of the school, the assembly, unique through sight and sound.

Sources and Uses of the Visual Aids in the Teaching of Biology

(*Concluded from page 229*)

into each of several finger bowls, together with a small amount of vegetative material (such as the lily pads or oscillaria and possibly a small amount of organic material taken from the bottom of the pond). Dilute this daily by adding 10 cc. of non-toxic distilled water (or spring water) until the volume is about 70 cc.

3. Allow these cultures to stand and examine every few days. If amoebae are present, they will usually become abundant within 10 days or two weeks. (Care must be taken to avoid starting such cultures with too great a quantity of organic material.)

4. As soon as the amoebae become abundant, start small cultures by pipetting about 5 cc. of the medium containing amoeba into each of several glasses.

5. In the course of a few days, add 5 cc. of distilled water to each watch glass culture (i. e., add a small amount each day until 5 cc. have been added).

6. At the time the watch glass cultures are started, add to each small culture a piece of boiled timothy hay stem (a piece 15 to 20 mm. in length).

7. Watch cultures daily for a period of one to two weeks. Do this by placing the watch glass on the stage of a binocular microscope.

8. At the end of two weeks, discard all watch glasses which do not contain amoebae.

9. It is now time to transfer the smaller cultures to finger bowls. Stir the culture well by forcing a stream of the culture medium against the bottom of the watch glass to dislodge the amoebae. Transfer all the medium in the watch glass to a finger bowl and add water to bring the volume up to approximately 30 cc. At the same time add pieces of boiled timothy hay stems (50 to 60 mm. long which have been cut into 15 mm. pieces). To this may also be added a boiled wheat or oat grain.

10. At five or ten day intervals, add 10 cc. of pure distilled water and add more boiled hay stems each time that water is added. (Do not add more than 40 to 50 mm. of boiled hay at one time). By this slow addition, bring cultures to 65 or 75 cc. of total volume.

A culture of this kind should thrive for about a month. If it is to be kept for a longer period, it will be necessary to sub-culture as follows:

Siphon or pour off half the culture medium. Agitate the medium remaining in the culture to dislodge the amoebae from the bottom of the bowl. Divide this remainder into two equal parts and proceed as before to gradually bring up the volume of food and water.

The culture of amoeba is quite difficult, so do not give up if success does not result from the first effort. If it is impossible to find amoeba in your locality, purchase a culture from some biological supply house as "Turtox."

Handling Amoeba in the Laboratory

Always pipette amoeba from the bottom of the culture. If a purchased culture is being used, always allow the shipping bottle to stand for an hour or longer to allow the media to settle to the bottom. To test the culture to determine whether or not amoebae are present, pipette a large drop of sediment from the bottom of the culture onto a clean microscope slide and examine this drop under a binocular microscope. (If no binocular is available, place a cover glass over the drop of water and examine under the low power of the compound microscope, with the light cut down as already suggested).

If amoebae are present, they will be seen at once through the binocular microscope, because of the large size of the field. If the amoebae are not found in the first drop do not give up but make a thorough search of several drops. If specimens are found the class slides may now be prepared as follows:

Clean as many glass slides and cover glasses as there are students in the class. Lay these out on a tray and put in a warm place so that the amoebae will not be chilled when they are placed on the slide.

About 15 minutes before the class starts, pipette one drop of culture medium, taken from the bottom of the culture, onto the center of the slide and cover with a cover glass. Look at each slide through the binocular microscope to be sure that several amoebae are present. As soon as the students arrive at the laboratory, give them their microscopes and after they have received their preliminary instructions, pass out the slides. Warn the students to add a drop of water to the slide at the edge of the cover glass when the mount shows signs of drying.

As the teacher knows that there are amoebae on every slide, it is not necessary for him to wear himself out trying to find specimens for each student. When the cries of distress begin, the teacher can tell the students to "look again."

The concluding installment in November will discuss chiefly the use of the Compound Microscope and the Micro-Projector in the teaching of Biology.

New Developments In Visual Aids

SARAH A. HINE

VISUAL aid to education in the Newark Museum Educational work has always differed from visual aids in many museums and schools in that no slides or films are used. The Visual Education Department of the Newark schools supplies these. As far as possible the self activity of the child is emphasized in Museum work in connection with visual aids or instruction. For instance:

1. When school classes visit us they handle some objects and take part, through questions and answer, in the explanation of the subject matter. There is no lecture as such. The subject is developed by relating it to the child's experience, as is done everywhere, thereby giving him a chance to express his thoughts about it while it is being developed.

2. Special exhibits have been arranged to supplement school work such as:—Every day life, used by 1st and 2nd grades; Habitations of Man and Transportation, used by most grades; North American Fisheries Exhibit, etc. These are used as school projects by many classes; also the Exhibit of the Story of Newark: The Story of our Modern Culture and how it began; the Exhibits of Ten Cent and Fifty Cent Articles, used by docents of classes to further good taste in house furnishing objects.

Many models have been added to exhibits used by school classes such as the models of:

1. Light house with flashing light.
2. Cave dwelling with inner room in which are wall paintings of bisons, mammoth, deer.
3. Pile dwelling, such as was found in the lakes of Switzerland.
4. A number of new models have been added to the story of the Earth Exhibit:—the sabre-toothed tiger, sphenodon, eocene whale, brontosaurus, mastodon.
5. The Mechanical Models which show 106 movements in a series of ten groups. By turning a knob a child can set each group in motion.

An exhibit at the Museum of some of the activities of Newark teachers, illustrating their hobbies, included a great variety of interesting things such as a loaf of bread, fine wood carving, books published, paintings, decorated articles, needle work and many others.

Models made in the schools were given to the Museum. Some are in the Lending Department for circulation among all the schools: Ann Hathaway Cottage; Arab Tent; Eskimo Igloo; Tipi; Japanese Garden; Mt. Vernon Garden; Viking Feast Hall.

Other models made by the schools are not suitable for transportation but are used with visiting classes:

Indian pueblo	Tree house
Medieval castle	Mount Vernon
Spanish patio	Cape Cod Cottage

Paintings are lent to the schools to beautify the rooms or to supplement school work.

Many objects in the Lending Collection have been placed in sets so the children by grouping objects may make a continuous story about the objects they borrow. For example, a set which might be chosen by a girl who came to select objects for her lesson on Chinese life includes: bamboo, bamboo basket, book, bowl and chopsticks, coin, doll, fan flag, hair ornament, mirror case, baby's shoe, model of a bound foot shoe, thimble, sandals, and labels.

The stories made from these vary with the ability of children, but by putting things together which have even a slight connection, the child by using the story-telling labels and school books can make a simple story something like this:

"The native Chinese dress is very different from ours as this doll shows. This man wears, over his trousers, a robe with a skirt opened at the side. Over this he wears a coat which buttons close about the neck. Officers and other gentlemen, as well as ladies, carry fans.

"The baby's shoe was probably made by her mother, who has carefully embroidered a tiger face on it to keep away evil spirits. The model of a bound foot shoe shows the old custom of binding the feet of a girl of a good family, beginning when she was from five to eight years of age and keeping them always bandaged. It was sometimes very painful and now the government forbids it.

"A girl is taught household duties, weaving, embroidering, sewing of all kinds. Her thimble is like ours but without a top. She probably made the mirror case of rose satin very carefully embroidered. In it she kept her mirror of polished glass. A lady takes great care of her hair, sometimes using many ornaments in it."

The story can go on describing the chief article of food, how it is grown and eaten; another characteristic plant, the bamboo, and its uses. Then something about boys, their schooling and books, feet not bound, their regard for the flag, the value of money and so on.

In addition to about 9,000 other objects which schools may borrow, structo looms are lent with patterns for weaving. The pupils, then, may set up the warp threads and weave the patterns.

Two vocational schools have installed cases in which exhibits related to school work are placed by the Museum. These are changed every two months. The Boys' Vocational School made the cases.

Branch Museums have been established in nine Branch Libraries, two of which are in Department stores. Books on the subject matter are available and the circulation has increased. Teachers and children avail themselves of these exhibits in their vicinity.

Special loans to churches, clubs, department stores and individuals have increased threefold in the past year.

Visiting teachers from the Child Guidance Department of the Newark Schools have cooperated with Junior Museum clubs by sending children who would be benefitted because of association, in constructive work, with other children or because they needed additional outlets for their capabilities.

Children in the clubs arrange their own exhibits. Junior and Senior Stamp Clubs have a large exhibit in the spring, and a small bi-weekly exhibit through the fall and winter; Boys' and Girls' Nature Clubs arranged their own exhibits of minerals, seeds and leaves; the Little Club, composed of children under ten years of age, carry out a project for several weeks, such as an Indian project, and they exhibit, in a case in Junior Museum, the best objects made at each meeting, namely moccasins, tipis, papoose carriers, etc.

The Junior Stamp Club prepares a monthly bulletin contributing voluntarily the subject matter and printing it themselves on a hectograph.

Objective Presentation in Educational Procedure

STELLA E. MYERS

IN ORDER to deal with the relation of represented objects to the educational procedure, we must understand the present-day aims of education and the learning process, with which education is chiefly concerned. Formerly, we emphasized procedure from the point of view of the instructor in pondering over "Methods of Teaching." Now, we emphasize functioning in the pupil and attempt to discover "How We Learn." An attempt is here made to assemble the aims of education as expressed by various leading educators, after which we shall consider the process of learning.

Aims of Education

First, all should understand something of the sweep of creation in its physical, biological, and social aspects, and the need of fitting one's own life into this movement. Everett Dean Martin says, "No one who is really a creature of his own times is really educated." This long view of world tendencies may give some clew to future changes, and an insight into vital trends will assist in making adjustments to a changed environment. Seabury says, "Whatever patterns society or we as individuals may establish in the future must be sufficiently fluid so that they change with the expansion of our inner life, for fixity is synonymous with death and stagnation. Evolution ceases when crystallization begins." Growing forms cannot be crystallized; the principle of growth involves change and expansion. "In its simplicity, the distinction between the old and new points of view is really found in this contrast between rigid perfectionism as a way of goodness and the evolutionary spirit which centers responsibility upon taking the next upward step." O'Shea says that to know how the world is constructed and how it operates is to reduce fear.

Second, according to Judd, we need a mastery of the common devices of civilization. This will include, aside from physical devices, a working knowledge of social institutions, enabling us not only to live together in small and in large groups, but to promote the well-being of the members of such groups.

Third, all should have, as far as possible, aesthetic appreciation and creativeness. L. P. Jacks speaks of man "as a citizen of a universe, which can be loved, enjoyed and reverenced." Aesthetic reactions have a tendency to raise the tide of life. Dewey, in his recent work, "Philosophy and Civilization," makes much of the integrating and harmonizing effect of plastic art upon the observer. These three aims of education, if met successfully, will insure: (1) Bodily and intellectual wants supplied; (2) Social harmony with a giving as well as a getting from all groups, whether large or small, to which one belongs; (3) An aesthetic appreciation of all beauty with a tendency to create it where needed. If one desires a more detailed statement of the aims of education, and, perhaps, a more comprehensive one, that of Bernard Iddings Bell may satisfy: "By education is meant the process, or combination of processes, by which a child is helped to discover, at least partially: (1) His own potentialities; (2) The nature of the things and people which surround him, how they came to be the way they are, how they behave; (3) Those ultimate realities, at which words can only hint, which are the springs of courage, serenity, peace; (4) And finally a method of correlating his world with himself and both together with the ultimate.

If one has been truly assisted to these four kinds of knowledge he will be able to take command of his own further development, he will be fitted fairly well to be the captain of his own soul and to share with others in the architecture of our mutual fate. If any one of these four developments is grievously neglected, the result is apt to be a lopsided and even a dangerously lopsided man.

From the fourfold definition it follows that educational discipline must necessarily be of four sorts,

none of which is to be forgotten: (1) Artistic nurture, whereby the child is assisted to discover how he may creatively express himself and, in the expressing of himself, know himself; (2) Scientific instruction, through which the world, physical and social, its nature, its history, the rules by which it runs; (3) Contemplative training, by which he learns how to sense the ultimates which lie beneath thought and beyond the world as perceived by the senses; and (4) Philosophical culture, which leads him to relate, for himself, in himself, in a systematic whole, that which the artistic, scientific and contemplative disciplines have revealed to him."

"How We Learn"

As to how we learn, we have the interesting and perplexing question, "How to learn how we learn." Many different schools of psychology have attempted to answer this query travelling by very different routes. Some have been skeptical, saying that a thing cannot observe itself; that the inside cannot observe the whole. The different schools, however, have all contributed something that seems to be of value. Perhaps, none thus far have found the ultimate ways of looking at mental activity. One leader of thought is trying to locate a common ground in the dynamics of consciousness. We shall speak of the chief means of pursuit of this elusive phase of living as all seem to be trails that help to approach the objective.

I. Study of the conscious processes as distinguished from their organic conditions and correlates.
   1. Analytic and synthetic methods.
      A. Study of structure—existential school.
      B. Unit is the "act."
      C. Unitary wholes as units.
   2. Functionalism.
   3. Purposive activity—School of "ends".

II. Study of reflex action.

III. Study of the unconscious.

The existential students try to determine by analytic methods what are the elements of consciousness that they may find out its contents and structure. Nervous processes affect the mental processes. Dewey offers the criticism of this group that conscious processes may be structureless. Structuralists have analyzed so completely that Bergson remarked, "We kill that we may dissect." Taking a contrary stand, others consider the act of thinking as indefinable, as a whole, which emerges from a disposition, tendency, or attitude. Ideas only exist as parts of wholes, the whole preceding the parts. The total mental state is the determining factor as to what ideas shall be revived.

Each central idea is like a magnet in an electric field that "holds together all that comes within the range of its influence." Mental events are linked together by meanings, interest being all that binds them together. Others, holding to a synthetic system, are really super-synthetic in their view, since they see much more in perceiving than the simple whole, made up of the sum of its parts. They find these wholes even in reflexes and in all intelligent performances. A melody is much more than, and something quite different from, the succession of notes, from which it derives. A painting could never be understood by a study of its physical elements. It is not the sum of these, and probably not a summation of the interpretation of its several units.

Still others do not study the constitution of consciousness, either by analysis of its elements or by a study of it as an entirety. They investigate it as it functions. The method is empirical since mental acts are studied as they work in dealing with the world. The contents of consciousness are studied in relation to the context, the environment. Thought arises as a result of adaptation to the environment. When the equilibrium of an organism is disturbed, there is a delayed response, which induces thought. The organic correlates are also determined.

There is a foreign end, however, and the motor activities are only means to that end. Some learn of learning by the goals pursued. A journey is often rated by its objective points. Desires are the motor power. We can control hands, feet, vocal organs, for the most part, only by controlling our desires. A stimulus, acting upon the human organism, as it now is, including native propensities as affected by the life history of the individual, results in a purpose, which leads to its goal. We have native capacities and forces within us driving us to some ends of nature. All movement and action comes from an inherent energy of the organism striving towards an outlet determined by its structure. Ideals are said to be the strongest motives to human action. The aim of educators should be to implant general principles, which will engender ideals. This will result in more powers than in attempting to develop skill in special subjects.

A certain division of psychologists take nothing for granted that is too elusive for their physiological laboratories. They can determine no signs of anything in the individual but bodily activity. They study motor and glandular behavior, which result from stimuli of the environment. Consequently, by arranging sets of proper stimuli, any sort of human being that is desired can be turned out of this factory. Before mass production takes place, probably the human species will be so standardized that the product will be assured to be of a high grade. The realm of the unconscious is thought by one school to contain the residua of the life-long consciousness. If these left-overs can be pried out, we shall be able to determine the nature of the conscious processes that now are, from those that have been. This method of the study of mental activity seems to be more helpful in pathological cases than revealing of normal procedure.

(To be concluded in the October issue)

GOVERNMENT ACTIVITIES IN THE VISUAL FIELD

CONDUCTED BY MARGARET A. KLEIN

Needed---More Public Health Exhibits

CHARLES WHITEBREAD

THE LONG period of ignorance, mystery, and superstition relative to conditions affecting the public health, which promote or prevent longevity, ended with the development of the medical sciences. Owen (1840) established the length of biological life by the development of the bones. He fixed the normal life as five times the number of years required to perfect the bones. Twenty years are needed to complete the process of bone perfection in man, and figuring on this basis the length of man's life should be one hundred years. The cell theory of Virchow (1858) taught that all tissues of the body are living units of high vitality, made to perform certain functions, after which they die and are cast out of the body, and are replaced immediately by new cells. This process of renewal goes on until the entire body is renewed, and it is the maintenance of this renewal which regulates health and longevity. Pasteur (1862) disclosed external forces not previously appreciated when he revealed the life-history of bacteria, the greatest health and life destroyers of mankind.

The new ideas that diseases are caused by germs which pass from person to person, and that their control requires notification and isolation, now took definite form. Knowledge of the organisms causing disease, the devising of laboratory methods of discovering and diagnosing disease, and a familiarity with the means by which diseases are spread, then developed rapidly. These discoveries soon led to correct ideas concerning sources of contagion, and the parts played by air, water, milk, and insects, in the dissemination of diseases.

The first assistance rendered in health matters by cities and towns of the United States was by the appointment of temporary committees to cope with disease outbreaks. Local Boards of Health were appointed at Petersburg, Virginia, in 1780; at Philadelphia in 1794; and at New York City in 1796. Permanent health organizations did not materialize until much later, and even then progress in this direction was slow.

The public health movement on a large scale took definite form first in England with the Public Health Act and General Board of Health of 1848. Louisiana created a State Board of Health in 1855 to deal with matters of quarantine. The creation of the Massachusetts Board of Health in 1869, and the Virginia and California Boards of Health in 1870 followed.

As it functions today, the United States Public Health Service is the outgrowth of one hundred and thirty-five years of experience and legislation. Congress in 1798 established the Marine Hospital Service for the care of sick and disabled merchant seamen. The Act of Congress of April 29, 1878, marked the beginning of quarantine regulations at seaports. By 1912 the service had taken on its present organization as the United States Public Health Service. This good work has progressed until at the present time other government bureaus have become interested in various phases of public health, and each state has some legal provision for local health organizations, although in the majority of small towns and rural districts there is no board of health or health officer.

Many voluntary organizations have been formed which operate more or less independently, such as the American Medical Association and the American Public Health Association which deal with all phases of the health question, and others, as typified by the National Tuberculosis Association, American Heart Association, American Society for the Control of Cancer, etc., which aim to conquer specific diseases. Museums have and are cooperating in the much-needed educational phase of public health work. The first museum public health collection was established in the American Museum of Natural History, New York City, and the second in the United States National Museum, Washington, D. C.

The health collection of the United States National Museum was inaugurated in 1922 in response to requests to the Smithsonian Institution from public health workers throughout the country, who were of the opinion that the Museum maintained by the government should take a part in the development of an educated and trained public opinion concerning matters pertaining to health, thus stimulating interest in the establishment of health exhibits by other museums of the United States.

The southeast court gallery of the Arts and Industries Building (Old National Museum) of the Museum group was assigned for the installation of the health collection. This gallery has been completely filled with appropriate permanent material, the first section of which illustrates what germs and parasites are, how water is polluted, how to get pure

water, waste disposal, fresh air (ventilation, housing, etc.), how pure milk is obtained, how insects transmit disease, how animals transmit disease, healthful farm surroundings, etc. The second part of the collection deals with the way life begins, care of the mother before the baby is born, care of the mother and child at birth, care of the baby before he goes to school, healthful school surroundings, diseases of children, what the public health nurse does, importance of play and recreation, care of the teeth, eyes, and feet, care of the child in school, sanitary school houses, what mental hygiene is, social hygiene, dressing for health, the adolescent period, early adult life, healthful working conditions, the value of first-aid and life-saving, dangerous diseases, why we should be physically examined periodically, etc.

While the national health collection has failed to stimulate museums throughout the United States to develop such exhibits, it is nevertheless serving a very good purpose where it is seen annually by a large proportion of the nearly two million visitors from all parts of our own and other countries who pass through the Museum buildings each year. The opinion of visitors that "there ought to be such a collection in every city" is most encouraging to those in charge of the development of the exhibits.

The foregoing facts have been given to show the length of time which has elapsed since the birth of the medical sciences; also to make it clear that the public health workers have been very alert since that time to educate the public to think right concerning matters of health. In spite of all that has been done to weed out the old superstitions and misconceptions, insofar as they relate to medicine, it is astonishing to learn such facts as the following taken from an item in the December, 1929, number of the Long Island Medical Journal:

> "Twenty-two per cent of high school students interviewed in a recent survey believed that a horse hair left in a bottle of water would become a snake, 18 per cent that a mad stone applied to a dog bite was the proper treatment for rabies, 59 per cent did not know that the mosquito was the only carrier of malaria, and 26 per cent thought that warts could be removed by means of charms."

This quotation is sufficient, at least it seems so to me, to justify the title of this paper. Surely the existence of such beliefs among those with training above the average is ample proof that further intensive instruction is needed concerning the simple matters of health which should be included in the knowledge of all educated persons.

The methods of fighting superstitions and misconceptions are numerous, but visual education, in my opinion, is the best method of teaching in all instances where it can be made applicable. If other means of imparting knowledge pertaining to hygiene, sanitation, and preventive medicine by means of the eye have not been developed elsewhere to a greater degree proportionately than they have at museums, then much remains to be done, as, to the best of my knowledge, only two museums in this country have public health exhibits. The following excerpt from a public health journal would indicate that more museums should undertake the development of public health collections:

> "Is it not time to create at a museum of health in which would be collected suitable material for demonstrating the history and progress of public health in America, the manner in which disease may be prevented, controlled, and eradicated, the life history of the various microbic and animal parasites of man, and the methods of promoting public health?"

If there is any doubt relative to the public's appreciation and interest in museum health exhibits it should be dispelled by statements such as the following by a former director of the American Museum of Natural History:

> "It (the public health collection) is the exhibit that is most studied of any exhibit in the Museum, and I see more individuals taking notes of this than I do of other exhibits."

The public needs enlightenment on matters pertaining to health, and museum models and exhibits are among the best means of diffusing knowledge. Let us hope, therefore, that the possibility of museum treatment of the subject of health in a popular way will be realized by more museums as time passes, and that such institutions will render a full measure of assistance to the public health authorities and workers who need the cooperation of all if the best results are to be obtained.

Editor's Note: Because of the high importance of the subject, Mr. Whitebread wisely devoted most of his attention to a discussion of plans and activities looking to the promotion of Public Health by systematic methods. Yet "Health" is but one of the many subjects treated by the National Museum.

For example, the Division of Graphic Arts of the United States National Museum maintains several traveling exhibits illustrating the various processes of the graphic arts for the use of schools, colleges, public libraries, museums and other organizations that are interested in "How Prints Are Made."

We are glad to announce for a future issue an article by Miss Margaret A. Klein, editor of this department, which will give a detailed account of the wonderful models, posters and industrial exhibits on view in the National Museum on a wide range of subjects.

DEPARTMENT OF VISUAL INSTRUCTION NOTES

CONDUCTED BY ELLSWORTH C. DENT, SECRETARY

Visual Aids Prominent at Teachers Meetings

The rapid increase in the use of visual aids among the schools of the Central States is indicated by the increase in service demands upon the various organizations which offer visual instruction service and by the emphasis upon visual instruction developments and methods at the meetings of the state teachers' associations.

The Kansas State Teachers Association will meet November 4 and 5 in six sections. At each section, there will be one or more demonstrations of the use of visual aids, particularly at the Geography, History, General Science and Biological Science round tables.

The Colorado Education Association will meet in Denver on November 10 and 11. A special program has been arranged for the Visual Education Section, under the direction of Mr. Robert Collier, Jr., of South High School, Denver. The central theme of the meeting will be "Visual Education by Student Exhibits." Very complete exhibits, prepared by students of the Denver schools, will be on display, supplemented by exhibits of visual instruction materials and equipment. At the close of the Friday afternoon program, there will be demonstrations of the latest developments in motion picture projection equipment.

The Missouri Teachers Association will meet in Kansas City on November 11 and 12. The visual instruction round table will be held at two o'clock Friday afternoon. Mr. Rupert Peters, Director of Visual Instruction among the schools of Kansas City, will be in charge of the round table. The program will include an illustrated lecture and a discussion of recent developments in the Visual instruction field.

Department Branches Organizing

Minnesota

For administrative purposes, the Minnesota Association has been districted into eight divisions. Under the direction of Mr. Donald K. Lewis, Central High School, Red Wing, who is acting as organization chairman of the Minnesota Branch, there will be a chairman in charge of Department memberships in each district.

The Minnesota Branch expects to be well organized in time to assist with and act as hosts to the Department of Visual Instruction when it meets in Minneapolis concurrently with the Department of Superintendence of the N. E. A.

Iowa

The organization and development of the Iowa Branch of the Department of Visual Instruction is being sponsored by Mr. H. L. Kooser of the Visual Instruction Department of Iowa State College; Mr. L. W. Cochran of the Extension Division of Iowa University; and Miss Margaret Brick of the Des Moines City Schools. Meetings of special groups for presentation of Department information and organization plans were held in Sioux City on October 7 and in Council Bluffs on October 14. Other meetings will be arranged in other sections throughout the year.

California

Mr. Robert S. Johnson, in charge of the Department of Visual Instruction, University of California, is assisting with the organization of the California Branch of the Department. Those who use the extension service of the University will be given an opportunity to join and assist with the final organization of the Branch.

Reports from the Visual Aids Section of the Southern Branch of the California Teachers Association indicate that it may become the Southern California Branch of the Department, with headquarters at Los Angeles or at San Diego. The Visual Aids Section has been active for some years and should form a thriving Branch of the Department.

Arizona

The organization of the Arizona Branch of the Department will be directly in charge of Dr. Max P. Vosskuhler, Director of Extension at the University of Arizona. Prof. George A. Stracke, whose interesting discussion of visual instruction courses appeared in the September issue, will assist with organization plans.

Texas

Mrs. Charles Joe Moore, in charge of the Visual Instruction Bureau of the Extension Division of the University of Texas, has appointed a committee to assist with the organization of the Texas Branch. Mrs. Moore, as many will recall, was formerly Vice-president of the National Academy of Visual Instruction and has been an active worker in the visual instruction field for the past several years.

Because of the "la'ge size" of Texas, Mrs. Moore has asked for a larger assisting committee than will be needed in the small states of California and New York.

Connecticut

Mr. Edwin W. Johnson, extremely active visual instruction worker and Director of the Department of Visual Instruction of the Bridgeport Public Schools is assisting with the development of the Connecticut Branch. It has been suggested that a membership contest be arranged between the Texas and Connecticut branches for the purpose of determining the relationship, if any, between area and interest in progressive educational movements.

Chicago

Plans are well under way for the organization of a Chicago Branch of the Department of Visual Instruction. Mr. Dudley, the founder of the National Academy of Visual Instruction, called together a representative group of workers in the visual field last July. It is planned to hold a number of meetings during the school year when programs helpful in daily teaching will be presented.

Membership Application Blank

Office of the Secretary-Treasurer,
Department of Visual Instruction &
National Academy of Visual Instruction,
1812 Illinois Street, Lawrence, Kansas.

Date.....

I herewith make application for ☐ Active ☐ Associate ☐ Institutional ☐ Contributing Membership in the Department of Visual Instruction of the National Education Association, combined with the National Academy of Visual Instruction, covering the period of one year from date.

Check below the preferred date for payment of dues.

☐ Remittance attached ☐ First of next month.

☐ .....

Name .....

Position .....

Street .....

City & State.....

I am ☐ } a member of the National Education
I am not ☐ } Association.

NOTE—Make checks payable to the Department of Visual Instruction.

The Passing of a Pioneer

Adolph Lomb, vice-president of the Bausch & Lomb Optical Company, died at his home in Pittsford, N. Y., a suburb of Rochester, on Sept. 30th, after a brief illness. He was 66 years old.

Mr. Lomb, the eldest son of Capt. Henry Lomb, the co-founder of the Bausch & Lomb Optical Co., had been connected with the optical institution established by his father and John Jacob Bausch for 53 years. He entered the company when a young lad of 14, leaving temporarily to continue his university studies. He was a graduate of the University of Rochester, Class of 1892, and had also taken advanced work at the Massachusetts Institute of Technology and the University of Berlin, Germany.

Besides being an executive of the Bausch & Lomb Company, Mr. Lomb was identified with a number of scientific and patriotic societies, chief among which was the Optical Society of America. Mr. Lomb had been treasurer of that organization since its inception and one of its most beneficent financial supporters.

Carrying on a work instituted by his father, Mr. Lomb was interested in the welfare and activities of Civil War Veterans and the Sons of Civil War Veterans. He was a trustee of the Henry Lomb Camp, Sons of Union Veterans.

He also was prominently identified with German-American Societies in Rochester and during the strained days of the World War was active in promoting the best interests of German born residents in the United States. Among the tributes paid Mr. Lomb's memory was one from Former Judge John D. Lynn, who was United States Marshall in Rochester during World War days. Judge Lynn in expressing his personal sorrow at Mr. Lomb's passing, said in part:

"Mr. Lomb, through his great understanding and sympathy with the German-born citizens of Rochester, added to unselfish patriotism, did more toward maintaining peace and preserving amicable relations between the so-called enemy aliens and their adopted country than any other person in Rochester. His passing will be deeply mourned."

FILM PRODUCTION ACTIVITIES

The aim of this new department is to keep the educational field intimately acquainted with the increasing number of film productions especially suitable for use in the school and church field.

First Century of Progress Motion Picture Released

The first motion picture to be released in the Century of Progress series being produced by the Atlas Educational Film Company is titled *Chicago—Wonder City of the World.* The film presents advantages offered by Chicago as a vacation city and contains an invitation to attend its 100th birthday anniversary celebration and A Century of Progress International Exposition in 1933.

The motion picture contains many unusual views of Chicago and includes scenes taken at familiar points of interest. The striking "loop" skyline with its score of towers and other interesting scenes of Chicago life will be presented in an effort to attract visitors to the city and to the Fair. As a playground the city is aptly presented with thrilling sports "shots" taken at the ball parks, race tracks, beaches, bridle paths, golf courses, and the numerous other spots where sport lovers seek amusement. Concluding the film are unusual views of many of the World's Fair buildings and exhibits now completed. The picture will serve as a guide to the many thousands who will view it and gives a complete pictorial presentation of Chicago and its many attractive features.

It will be circulated through the entire non-theatrical field of exhibitors consisting of universities, colleges, high schools, churches, clubs, and other responsible organizations. Circulation will be national in scope, and already demands for the entire series have set a record for educational production. Copies of the films will be available in both 16 mm. and 35 mm. sizes and will be loaned without charge.

A Film on Movie Making

In the short feature *How Movies are Made,* Ralph Staub, Director of Columbia's *Screen Snapshots,* gives a detailed exposition of picture making, revealing to the lay audience, for what is probably the first time, the complete course a story idea pursues in reaching the screen.

The camera travels from the executive offices where the story assignment is made, through the authors' quarters, the drafting room, the carpenter shop, the sound department, the casting office, the wardrobe department, the property rooms and the laboratories. Seen in action are the set dressers, extras, stars, director and cameramen in the actual process of shooting a scene. The exposed negative is traced through the sound department and laboratory to the film editor, where with the aid of a "Movieola" the final phase of production takes place.

A New Health Subject

The latest addition National Motion Pictures Company has made to its library of health films is a one-reel motion picture entitled *Forming the Habits of Health.* The production shows in narrative form the importance of habit formation and interestingly reveals the experiences of a girl who sets out to form habits which result in a definite improvement in health.

This film is available on both 16 mm. and 35 mm. widths.

Famous Operas Filmed

Educational Film Exchanges, Inc., have contracted for the release of a series of six Operalogues, produced by the Kendall de Valley Operalogue Company in Los Angeles.

One of the world's most famous operas, condensed so as to concentrate the essence of melody, is the basis of each of the two-reel Operalogues. Realizing the importance of "motion" in motion pictures, the producers assert that as much attention is being given to the visual flow as to the reproduction of the world's finest music.

Two in the series have already been completed. They are *Milady's Escapade,* based on *Martha,* by Von Flotow, one of the most melodious operas ever written, and *Vendetta,* a modernized version of Mascagni's masterpiece, *Cavalleria Rusticana.*

United Air Lines Show Films

United Air Lines are using motion pictures for promoting interest in air travel. A 16 mm. 800 foot film, *Across America in Twenty-seven Hours,* is being shown by the Air Lines' traffic representatives before luncheon clubs, business men's organizations, women's clubs, colleges, and high schools. Ten Bell & Howell Filmo projectors are being used for presenting the movies in various parts of the country.

The film consists of a pictorial narrative of a flight from California to New York and includes many remarkable views of planes flying over scenic and historic country, particularly the western mountain areas. There are splendid shots of the big

(*Concluded on page* 241)

NEWS AND NOTES

CONDUCTED BY JOSEPHINE HOFFMAN

Fall Courses in Visual Instruction

Dr. George Roemmert, formerly of Munich, Germany has lectured before groups of science teachers on several occasions. Except for a few contacts that he had with educational institutions, these talks have been a single lecture of one hour duration giving no adequate opportunity for study of his technique or for him to present a full interpretation of his work.

Recognizing the interest that there has been in Dr. Roemmert's work, Boston University School of Education has engaged him for a series of seven meetings organized as a special course of instruction for science teachers, under the auspices of the department of Visual Education of the School of Education in cooperation with the New England Biology Teachers Association, and the Massachusetts Branch of the National Academy of Visual Instruction.

The course includes discussion and demonstration of the laboratory technique of collecting, preparing, preserving and projecting micro-organisms. The demonstrations are shown by micro-projection methods and include interesting phenomena from both biological and physical sciences. Experiments are performed with living protozoa which show important phenomena associated with physiology and behavior of these living cells.

The micro-projector is used also to illustrate botany, physics, and chemistry, including a microscopic study of foods, textiles and commercial products; growing of crystals; electrolysis; the use of polarized light; and exposition of Brownian Movements.

Dr. Roemmert will also present techniques employed, with simple methods for successful micro-projection; will display micro-projection apparatus made by high school students; will present methods of illumination and methods of mounting slides to secure greatest clarity and brilliance of picture.

The meetings which began September 27th, are held twice a week and offer one hour credit.

◆ ◆ ◆

Mr. Abraham Krasker is again conducting a course on Visual Education this semester at Boston University, in which he discusses the use of teaching aids such as motion pictures, slides, filmslides, still film, pictures, exhibits, models, trips—and the preparation of the teacher for their use. Each member of the course selects from available illustrative materials suitable aids for teaching a specific subjects or subjects in a given grade, correlating it with the course of study.

◆ ◆ ◆

Dr. Joseph J. Weber writes that he is to teach a 15-weeks' course in visual instruction in Angola, Indiana, in connection with county institute work, beginning October 8th. This work is being carried on under the direction of the Extension Division of Indiana University, of which Mr. H. W. Norman has charge.

Ohio Acquires New Visual Collection

The Visual Instruction Project sponsored by the State Department of Education for the purpose of obtaining funds with which to purchase a state collection of visual aids, was reported in the November 1931 issue of The Educational Screen. It will be recalled that the funds were to be raised by an illustrated lecture on Ohio, given by Mr. B. A. Aughinbaugh, Supervisor of Visual Instruction.

According to Mr. B. O. Skinner, State Director of Education in Ohio, the schools of the state had been spending annually over $120,000 on the rental of educational motion pictures and $100,000 on other visual aids. This rental money had been going to the coffers of other states where visual-aid collections were maintained.

The Ohio schools need not continue this practice any longer however, as their own State Department of Education has built up during the past year a library of films, lantern slides and filmslides which may be rented at a very low cost. By cooperation and promotion of this project Ohio will in time have a free collection of such aids.

Visual Manual for Pasadena Schools

The Visual Education Department of Pasadena, California, supervised by Harry H. Haworth, has prepared a helpful handbook entitled "Visual Aids in Education," which is being distributed to the teachers in the city schools.

In Part I classroom and auditorium equipment is described and illustrated; the question of screens is treated; and suggestions are given on the use of flat pictures and other visual aids. Part II is an impressive listing of the Department's available material—motion picture films, lantern slides, stillfilms, stereographs, wall prints and exhibits—classified by subject.

England Plans a National Film Institute

The report of the English Commission on Educational and Cultural Films, entitled "The Film in National Life," so impressed the English government officials that Parliament has decided to provide a fund for the development of the film as a means of entertainment and education, to be administered by the Privy Council. The plan is to establish a film institute similar to those already existing in Germany and Italy, financed by income from a non-commercial source, so that it will be independent of commercial interests.

The function of the Film Institute is not to produce films but to act as a "middle man" between the film trade and the public or the various organizations concerned. In regard to the entertainment films, it will try to organize film-going opinion, so as to influence cinema-hall managers to give their patrons a chance of seeing films of good entertainment value, both from British and from Continental and other studios. Film-goers' circles will be formed in every large town, and linked up with the film societies which are springing up everywhere for the purpose of arranging special private performances of films not usually shown in the public halls. The Institute will circulate critical lists of new films, and negotiate on behalf of provincial film societies for the supply of films they want at reasonable rentals.

The Institute will also undertake to sponsor schemes for the production of films required by various social, religious and cultural organizations. There are many bodies engaged in welfare work, philanthropy, research and popular education, which are anxious to use the film as an instrument of publicity, but cannot get their requirements met.

The problem of the long overdue introduction of the film as an instrument of teaching in schools, colleges and educational institutions will also be tackled by the Institute. An authoritative body is needed to sponsor experiments and report upon them; to provide a group of expert teachers to collaborate with the trade in making instructional films; and to test and recommend suitable projector apparatus.

The institute will also be required to adopt a method of classifying films according to their educational value.

It will thus serve as a valuable clearing house for information on serious film matters for the Empire, and will form a national library of films for reference and loan purposes.

Film Production Activities

(*Concluded from page 239*)

Boeing 14-passenger-mail tri-motored transport with a background of the Rockies and the Sierras, and fine aerial views of fourteen cities flown over on this 2700-mile flight from the Golden Gate to the Statue of Liberty.

Interior scenes of the plane in flight, including the serving of lunches by uniformed stewardesses, give the public a new appreciation of the comforts now available in the modern multi-motored transport.

An interesting part of the film is the depiction of the many new aerial navigation aids, such as the two-way radio telephone whereby pilots talk to ground stations and to pilots of other planes hundreds of miles away, and the directive radio beam, whose dots and dashes hold the pilot on his true course even if the landmarks of the course are not visible. There are interesting views of the cockpit and its instrument board with ninety instruments and controls.

"We know of no other effective sales solicitation method than the showing of such films," said a United Air Lines official.

Contributors to this Issue

VESTA J. BLAISDELL, Teacher, Field School, Forest Park, Ill.

ETHEL M. HILL, Teacher in Art Department, Central Avenue School, Newark, N. J.

SARAH A. HINE, In charge Newark Museum Association, Newark, N. J.

MARGARET A. KLEIN, Director, Children's Bureau, U. S. Department of Labor, Washington, D. C.

STELLA E. MYERS, Writer and Research-worker, formerly in charge of Visual Instruction in the Public Schools of Forest Park, Ill.

HOWARD L. REED, Massachusetts College of Pharmacy, Boston, Mass.

HOMER G. SHATTUCK, Head of Visual Education, High School, Rye, N. Y.

JOSEPH J. WEBER, Professor of Education, Valparaiso University, Valparaiso, Ind.

CHARLES WHITEHEAD, Phar. D., Assistant Curator, Division of Medicine, U. S. National Museum.

Correction

In the September issue, the entry under George A. Stracke was incorrect. It should read

GEORGE A. STRACKE, Instructor in Visual Education, Department of Education, University of Arizona, and member of the Committee on Visual Education for the Public Schools, Tucson, Arizona.

AMONG THE MAGAZINES AND BOOKS

CONDUCTED BY MARION F. LANPHIER

School Executives Magazine (September) In his article on "Organizing and Administering a Visual Instruction Program", Mr. C. R. Crakes, Principal of the High School, Moline, Illinois, presents a definite and comprehensive plan for the administration of a visual instruction program in school systems of smaller cities having probably two junior high schools and one senior high school.

He discusses the selection of the personnel, the qualifications, duties and salary of the director. Some estimates of equipment costs are reviewed, showing a yearly cost of $1.00 per pupil in a school of approximately 3600 enrollment, but the amount should be decreased as the collection of visual aids increase to a point where less rental material is required. Sources for projection equipment and various aids are included in the discussion, together with a suggested list of minimum equipment needed. After the material has been determined by the department it should be classified, using a card index system. The procedure followed by the Moline Visual Department in distributing the aids to the teachers is outlined, accompanied by reproductions of the forms used.

Mr. Crakes' article should prove immensely enlightening and helpful to the school systems who are contemplating the organization of visual departments. As regards the cost, he says, "the old argument that money is not available for a visual aid program is seldom sound, especially when we see funds being used for other projects which have less scientific data to support their claims for a place in the educational sun."

International Review of Educational Cinematography (July) Among the comprehensive features of this issue we find such valuable discussions for the educator as, "The Cinema and the Rural Exodus", "Acoustics in Educational Sound Films", "The Use of Motion Pictures in Character Education". One might list the entire contents table, but these subjects indicate the range of interest from a purely technical to a distinctly social and educational aspect in films in education.

(August) This issue deals with the cinema in Turkey, Austria, Peru, from the viewpoints, respectively, of the technical film, the "Urania" films, and Censorship. We find the final discussion of "Students and the Didactic Film" which has been running "serially" and some interesting comments under "Technical Notes" on "The Motion Picture and the American School".

McCall's (September) "To the Movies, but Not to Sleep," by Henry James Forman, is the "first of three articles revealing the far reaching influence of motion pictures on the sleep, health and conduct of America's children, based on the findings of a four-year investigation, supported by the Payne Fund, and directed by eleven eminent members of the Motion Picture Research Council. After establishing a measuring standard, by experimentation and observation, for normal sleep the movement and the lack of movement being the prime factor involved, further research was conducted upon children, not in private homes but in an institution.

"Obviously, Dr. Renshaw and Dr. Miller could not conduct their experiments among boys and girls in private homes. No matter how grateful they might be for the facts revealed, the parents would certainly have vetoed any proposal to use their children for experimental purposes. Besides, too many disturbing factors would have been encountered. Children go to bed at different hours. Their food varies widely. For these reasons it was decided to carry on the work at a home maintained at Columbus by the Ohio State Bureau of Juvenile Research. The routine of institutional life offered the regularity and uniformity necessary for scientific investigation. Any age group, from six years old to eighteen, could be used. The subjects were normal, average boys and girls both as to health and intelligence. This point is very important. The institution is not a reformatory or an orphanage and the findings cannot be dismissed on the theory that these children reacted differently than would children from private homes. Dr. Renshaw was emphatically certain that the boys and girls with whom he worked were happy and contented. A total of 170 children of both sexes took part in the inquiry. They were observed, with the aid of precise instruments, for 347 nights. Records were kept, covering 3,591,000 minutes, 59,850 hours or 6,650 child-nights of sleep. So much for the thorough nature of the work.

* * *

"The first discovery made by Renshaw and Miller is that Johnny tosses in bed a good deal more after seeing a picture show. He tosses more than his sister, for it develops that girls are somewhat less affected than boys. Johnny's restlessness is not limited to the night immediately following his film debauch, but extends for three or four nights afterward. He tosses most during the early hours when, as has been proved many times, sleep is most valuable. Some children, curiously

enough, sleep more quietly after a movie show. But even in these cases, it is declared, the beneficial effect of the hours in bed is reduced. All of which, it is quite certain, is rather too complicated for effective use in a Mother-Johnny movie debate. But Renshaw and Miller drew one conclusion which is simple enough. Any deviation from normal, whether greater or less tossing at night, is bad. The movies cause such deviation. The same effect can be achieved, if any parent wishes to try it, by keeping Johnny awake for two or three hours beyond his normal bed time, or by awakening him that much earlier. He will be irritable and cross the next day. His sleep, if carefully observed, will be roughly comparable to that after a movie show.

* * *

"The tossing and turning, following a movie, is greatest during the early part of the night when sleep should be the most sound. But it is not followed, later on, by recuperative slumber. The loss, Renshaw's studies showed, is not made up. A minority among the children slept with less tossing after going to the movies, but this, in Renshaw's opinion, did not prove that benefits had been obtained by the excursion. The conclusion drawn was that 'changes in motility *in either direction* indicate increased fatigue.' The movies sometimes had the effect of a sporific drug and served as a depressant. About two and a half times as many children showed an increased restlessness, however, as showed a decrease."

The article accounts for the causes behind the movement—result thoroughly, if popularly.

For additional comment on the above article we are indebted to B. A. Aughinbaugh, Director of Visual Instruction, State Department of Education of Ohio. Below is given Mr. Aughinbaugh's own report of the results of an interview he secured with the Dr. Renshaw mentioned in the McCall's article.

Question. Dr. Renshaw, this article states that "whether it is good or bad as a picture, the motion picture detracts from the healthful quality of sleep." Does this mean that the motion picture per se is the cause, or does it mean the content is to blame?" *Answer by Dr. Renshaw.* "It is the content."

Question. Were there comparative tests to see if there was any difference between the child hearing the story, reading an illustrated text of the story, or seeing the picture only? *Answer.* There were not. I wanted to make such a study but this was stopped for lack of funds.

Question. What children were used in the study? *Answer.* The wards of the Juvenile Research Bureau. (*Note*) This is a Bureau which studies children sent to it by the Probate courts of the state mostly because they are obstreperous.

Question. In what theater did the pupils see the pictures? *Answer.* The Rivoli. (*Note*) This is a small neighborhood theater in a not very high class part of the city. It is owned by a Greek. Dr. Renshaw places it in the "for dollars only" class.

Question. Do you condemn the use of motion pictures in education as being detrimental to the health of the child? *Answer.* I certainly do not. I think the motion picture is one of the greatest aids educators can use. I use it myself in my own classes. I sincerely trust that no interpretations can be put on my work to arouse any such idea. The work was not complete, and the article published in McCall's is full of half-truths which are very misleading. I objected to such publication. This is the work of scientists and for scientists. I undertook it chiefly because we have been interested in the subject of the sleep of children, and of sleep in general. This winter I am undertaking a study down in Georgia on the subject of the effect of caffeine on sleep. There is a considerable war on between the coffee interests, and a popular drink manufacturer on the one hand, and the makers of coffee without caffeine on the other.

Question. Was the subject of the effect on eye-sight studied? *Answer.* Yes. We found the motion pictures did not affect the eye-sight.

READY NOVEMBER 15th!

The New Ninth Edition of

"1000 and One Films"

The famous blue book of Non-Theatrical films, invaluable to users of motion pictures in school, church or community work. Lists several thousand films for education and entertainment, classified according to subject and arranged in more than 136 numbered subject groups.

The Ninth edition of "1000 and One" will show 35 mm. 16 mm. silent and sound films available.

Complete information given on every film—title, number of reels, brief summary of contents and sources from which films are available.

Special Pre-Publication Offer!

With every subscription for THE EDUCATIONAL SCREEN (combined with VISUAL INSTRUCTION NEWS) received between now and November 15th, we will send *free* a copy of the new Ninth edition of "1000 and One" (regular price 75c).

Use the Coupon Below For Your Order:

THE EDUCATIONAL SCREEN
64 East Lake St., Chicago Date.....

One year $2.00 ☐
Two years 3.00 ☐

I enclose my check for $....., for subscription as indicated, and understand I am to receive free a copy of the new Ninth edition of "1000 and One."

Name .....

Address .....

Position .....

THE FILM ESTIMATES

Being the Combined Judgments of a National Committee on Current Theatrical Films

(The Film Estimates, in whole or in part, may be reprinted only by special arrangement with The Educational Screen)

Estimates are given for 3 groups
A—Intelligent Adult
Y—Youth (15-20 years)
C—Child (under 15 years)
Bold faced type means "recommended"

Age of Consent (Dorothy Wilson, Richard Cromwell) (Radio) Another preposterous "college," co-educational, where life consists in brazenly sophisticated, smart aleck conversation and continuous girl-chasing. Real love and sex impulse thoroughly jumbled. John Halliday's fine professor role chief point of intelligent interest.
A: Absurd Y: Pernicious C: No

Back Street (Irene Dunne, John Boles) (Universal) Finely acted, intelligently directed, mature problem play of convincing though depressing reality, effectively portraying the brief happiness and long heartaches in being the "other woman" in a man's life. Irene Dunne notable as the unhappy heroine.
A: **Good of kind** Y: Unsuitable C: No

Big City Blues (Joan Blondell, Eric Linden) (Warner) Country boy—ambition—big city — bad influences — suspicions of murder, etc. Shows New York life as glorified mixture of cheap crookedness, chorus girls, playboys, gaudy night clubs and hectic booze parties. Waste of Joan Blondell's talent.
A: Cheap Y: Unwholesome C: No

The Blonde Venus (Marlene Dietrich) (Paramount) Cabaret-singer heroine, unfaithful wife, turned out by husband, kidnaps her child, and is hounded by detectives from town to town. Finally surrenders child. Follow poverty, degradation, then sudden success in Paris night clubs, and final reconciliation.
A: Unconvincing Y: No C: No

Cabin in the Cotton (Richard Barthelmess) (First National) Serious picture of social conditions where "poor whites" in the cotton belt wage unequal conflict with "planters." Earnest acting by hero and cast makes story quite human and convincing. Bette Davis thoroughly unpleasant in unpleasant role.
A: Rather good Y: **Interesting** C: No interest

Chandu, the Magician (Edmund Lowe, Bela Lugosi) (Fox) Well produced screen version of the radio serial. Struggle between Chandu, a yogi with hypnotic powers, and ambitious madman affords plenty of exciting action reminiscent of old-time thrillers. Lot of hokum but good fun if not taken seriously.
A: Fairly amusing Y: **Entertaining** C: Exciting

Crash, The (Ruth Chatterton, George Brent) (First National) Another heavy husband-lover problem in the exact Chatterton manner. Spoiled but happy with husband's wealth, she is ready, when he loses all, for divorce and Australia with rival. But husband more appealing after all. Notably good cast.
A: Good of kind Y: Unsuitable C: No

Crooked Circle, The (Ben Lyon) (World Wide) Mystery picture with same formula—haunted house with secret passages, mysterious gang of criminals and weird characters —but made more entertaining than average by comedy of Zasu Pitts and James Gleason. Good suspense and "different" ending.
A: Good of kind Y: **Amusing** C: Exciting

Crooner, The (David Manners, Ann Dvorak) (First National) Modest, engaging college boy stumbles into popularity as cabaret singer with his own band, is exploited into radio star at huge salary, till success turns his head and he crashes. Well acted and unusual degree of human interest in characters.
A: Rather good Y: **Excellent** C: **Good**

Doctor X (Lionel Atwill, Fay Wray) (First National) Murder-thriller that aims to outdo all previous attempts at thrill and horror. Pseudo-medical college, creepy doctors, stock scare devices, weird murders and suicides, with the gruesome novelty of cannibalism supposedly practiced by murderer. Waste of cast.
A: Mostly absurd Y: No C: No

Fast Companions (James Gleason, Tom Brown) (Universal) Simple little story of lovable but dishonest jockey who reforms to set a good example to a misguided waif who crosses his path. Elements of pathos and humor, together with a certain degree of charm, make a rather appealing picture.
A: Fairly good Y: **Entertaining** C: **Yes**

Flames (John Mack Brown) (Monogram) Sensational melodrama about two firemen, two girls, an evil-intentioned boss, and a terrific fire that allows some spectacular heroics on the part of the hero. Just another movie.
A: Mediocre Y: Worthless C: No

Ghost Valley (Tom Keene) (RKO) A western melodrama made according to the usual formula of hard riding, straight shooting and much fighting. A mass of plot and counter-plot and mystery involving a deserted mine in which gold has been discovered.
A: Hardly Y: Rather good C: Good but exciting

Hat Check Girl (Sally Eilers, Ben Lyon) (Fox) Lively mixture of night-club life, booze parties, gangsterism, and a murder. Rather complicated and fast-moving plot built on trite situation of poor girl in love with rich boy, whose father causes temporary trouble.
A: Mediocre Y: No C: No

Hearts of Humanity (Jean Hersholt) (Majestic) Sentimental melodrama concerning East Side Jewish pawnbroker, his worthless son and adopted Irish orphan (Jackie Searl) who takes the blame for misdeeds of the son. Sad story with little to relieve it. A waste of Jean Hersholt.
A: Hardly Y: Perhaps C: Sad

Heritage of the Desert (J. Farrell McDonald) (Paramount) Fairly good Zane Grey Western, with adequate riding and shooting thrills, heavy villains properly killed off, and some strikingly fine backgrounds and photography. Rather mediocre as to acting, for too many colorless beginners have important roles.
A: Fair of kind Y: Fairly good C: **Good of kind**

I Kiss Your Hand, Madame (Marlene Dietrich) (Stanley) Foreign production, silent, with titles in English and musical score added. Light romance of aristocratic heroine's love for supposed head-waiter who proves to be a Count incognito. Pleasingly acted, fairly well photographed and interesting as early Dietrich film.
A: Fairly good Y: Rather good C: Unsuitable

Last Man, The (Charles Bickford) (Columbia) Heavy melodrama, tough and two-fisted in Bickford style, about Suez waterfront dives, big time thievery and wholesale murder on the high seas, with usual romance threaded through. One or two novel situations and well sustained interest throughout.
A: Good of kind Y: Exciting C: Better not

Love Me Tonight (Maurice Chevalier, Jeannette MacDonald) (Paramount) Light, lively romance, elaborately set and costumed, of a tailor who loved a princess quite in operetta style. Merry mixture of songs, comedy of character and situation, and much very elementary rhymed dialog. Limited vehicle for Chevalier.
A: **Amusing** Y: Sophisticated C: No

Most Dangerous Game, The (Joel McCrea, Fay Wray) (RKO) The superb Cooper-Schoedsack photography wasted on feeble, artificial, preposterous scare-story about crazed Cossack hunter who tired of tigers and now hunts men on South Sea Island. Grisly thrills, mediocre acting, and silly comedy by Robert Armstrong.
A: Waste of time Y: No C: No

Movie Crazy (Harold Lloyd) (Paramount) Lloyd at his ingenius best again in typical vein—unequalled in his invention of crazy mishaps cleverly strung into more or less of plausible plot, against interesting background of Hollywood production activity. Clean, wholesome, hilarious fun.
A: **Very good of kind** Y: **Excellent** C: **Excellent**

Night Club Lady (Adolphe Menjou) (Columbia) Thrilling murder-mystery with several sensational murders, good suspense throughout, well acted by Menjou as the great detective, but with rather crude comic relief and some incredible features. Supporting cast rather undistinguished.
A: Good of kind Y: Doubtful C: No

Night of June 13, The (Clive Brook, Lila Lee) (Paramount) Murder-mystery pleasantly different from average. Ordinary people, living humdrum lives in suburban village suddenly jolted by apparent murder in their midst. Generally convincing, well-acted, much character comedy, and rollicking good fun.
A: **Amusing** Y: **Excellent** C: **Very good**

One Way Passage (William Powell, Kay Francis) (Warner) Powell and Francis at their best as smooth, crook hero and sensuous heroine. Sensational adventures and ardent love affair deftly directed and acted, good comedy and suspense, picturesque and logical tragic ending. Glamorous crooks and their doings dominate film.
A: **Very good of kind** Y: Doubtful C: No

Pack Up Your Troubles (Laurel and Hardy) (MGM) Another mixture of typical nonsense, slapstick and horseplay by this comedy pair —much of it laughable, bits of it vulgar, and one quite pathetic incident. Total effect probably harmlessly amusing. Enjoyable as vacuous fun over elementary human nature.
A: Perhaps Y: **Funny** C: **Funny**

Painted Woman, The (Peggy Shannon, Spencer Tracy) (Fox) Sex, booze, violence and murder in another episode of the South Seas. Complications in the life of a waterfront Magdalene struggling continuously against brutal sailors and other male derelicts, before finding real love and happiness.
A: Hardly Y: No C: No

Phantom Express, The (William Collier, Jr.) (Majestic) Dull and amateurish railroad mystery-melodrama. The villains, in their attempts to seize a Western railroad from its rightful owners, disguise an airplane as a ghost train to cause wrecks. Children will doubtless enjoy it.
A: Hardly Y: Fair C: Good but exciting

Phantom President, The (George M. Cohan) (Paramount) Hilarious, romantic farce with preposterous story about medicine faker elected to presidency of United States, through mistaken identity. George M. Cohan plays dual role in his own old-fashioned manner and Durante does his best slapstick comedy. Fast and funny of its kind.
A: **Good of kind** Y: **Amusing** C: **Funny**

Sniper (Russian Soviet Production) (Amkino) Certain phases of the Great War grimly shown with typically stolid but earnest Russian acting, and heavily loaded with propaganda on Soviet revolution. Some original bits of technique, but mostly crude photography, clumsy direction and rather dull story.
A: Hardly Y: No C: No

A Successful Calamity (George Arliss) (Warner) Human, realistic, social comedy in the exact Arliss style, with only such changes from the old Kummer stage play as improve the screen version. Able cast supports adequately the fine character work of the star. Intelligent entertainment.
A: **Excellent** Y: **Excellent** C: **Good as far as it interests**

This Sporting Age (Jack Holt) (Columbia) Roughneck heroics by Jack Holt as army Captain and champion polo player. Evalyn Knapp, as his engagingly wilful daughter, steals acting honors by large margin. Story climaxed by cheap seduction and polo-game murder.
A: Hardly Y: Better not C: No

Those We Love (Mary Astor, Kenneth MacKenna) (World Wide) Film version of John Golden's stage play. Happily married couple estranged when persistent vamp enters their lives, but wife forgives for the sake of their son (well played by Tommy Conlon). Trite situation quite convincingly and inoffensively handled.
A: Fair of kind Y: Mature C: No

Tiger Shark (Edward G. Robinson) (First National) As pleasant change from gang roles, Robinson has a realistic, human part as elementary, appealing Portuguese deep-sea-fisherman. Simple life of simple folk convincingly portrayed. Fine fishing scenes. Well handled love triangle. Grim, violent and tragic ending for "shark settles everything."
A: **Very good of kind** Y: Probably good C: Too strong

THE CHURCH FIELD

CONDUCTED BY R. F. H. JOHNSON

Missionaries and The Cinema

INTEREST in missions is beginning to be stimulated in an important degree by the showing of movies made by missionaries in the field. The general mission boards are realizing the value of such pictures to an increasing extent, and they are giving substantial encouragement to the making of them.

Reports from clergymen and church leaders everywhere indicate conclusively that mission films are interesting subjects for parish showings, and also that they arouse intensive interest in mission work. This is very frequently translated into substantial contributions of money for carrying on activities in the foreign field.

Because of the important status of missionary films in the realm of church movies, the following article on Missionaries and the Cinema from the *International Review of Cinematography* will be of special interest:

"Missionaries have always made use of illustrations, doubtless understanding that in order to give a clear idea of things nothing is so useful as a drawing or sketch. Past centuries have handed down to us works of missionaries in which the descriptions of the ethnography, geology, flora and fauna of distant countries, much more inaccessible then than now, were illustrated with drawings made with great care by draughtsmen of talent working under the authors' directions. A collection of drawings of this type in fact almost allows us to follow the progress of engraving, not so much as an artistic expression but as a method of popularizing information.

"There is therefore nothing to marvel at if as soon as photography was within everybody's reach a camera appeared as part of the outfit of a missionary. At the head houses of the various missionary congregations can be seen collections of photographs of extraordinary interest and historical and ethnological value.

"The cinema has not entirely taken the place of the photographic camera as a means of visual documentation for missionaries any more than it has for other people, but the cinema was not long in winning the approval of these pioneers of civilization. The missionaries have given us numerous films, which are all the more interesting inasmuch as the missionary cinematographist does not go to more or less unexplored countries merely to make films according to his taste and judgment, but as a result of long residence in one country has the time to observe and choose those objects and events which are worthiest of being registered.

"We have already referred in our column 'Book and News Notes' to films taken in all parts of the world by missionaries of various lands and faiths, films considered important by experts and valuable for purposes of scientific study. Some missionaries have even gained fame as experienced operators, as, for instance, Father Dufays, whose film 'From Dakar to Goa', enjoyed a success in the public cinema palaces and caused discussions in the technical press. This 'white' father, carried away by the passion of the cinema, is today gathering together in Africa with his machine material for an important film on French penetration in Central Africa up to Timbuctoo. The film, which will have as title 'The Blood on the Sand', will recall the sacrifices of the pioneers of European civilization in these regions, the first missions of the White Fathers, who suffered martyrdom for the faith, the murder of Father Richard, and the massacre of the Flatters mission, together with similar events. During his wanderings for the preparation of the film, Father Dufays takes care to film whatever seems to him interesting from the historical or folk-lore point of view. He has thus been able to film at Chardaia in Southern Algiers the preparations for a nuptial banquet. 'I shot the whole ceremony', he told a reporter of Ciné-Magazine, 'in the women's quarter and I am sure that I made an original document such as no one has hitherto seen and which perhaps no other European will see again for a long time.' Commenting on the difficulties of the undertaking our contemporary justly remarked: 'This is another proof that the missionary cinematographist is in a position to film documentary pictures of human life quite out of reach of other operators'."

* * *

"An interesting news-item of the Fides Agency takes us from the torrid Saharan desert to the icy solitudes of Alaska, and reports the activity of another outstanding cinema enthusiast, the Reverend Bernard J. Hubbard, Director of the Geological section of the Santa Clara University.

"The priest left New York in December 1930 and covered over 4000 miles by airplane and over 1500 on sleighs, the greater part of the time alone, in

(*Concluded on page 252*)

Supplementary References for Students of Visual Instruction

JOSEPH J. WEBER

DURING the past summer school session at the University of Texas, Miss Anna Hyde, a graduate student in my class in visual instruction, made a cursory search for references to supplement my comprehensive bibliography published in the January to June, 1930, issues of the EDUCATIONAL SCREEN. No attempt at completeness is claimed for the following list of references. The list is presented at this time, because it may prove more useful in published form to students and teachers of visual instruction at the beginning of a new school year than if it were held up for standard treatment in my private office. It is my intention to continue work with these references and bring out a carefully prepared supplement for next summer's visual instruction classes.

Abrams, A. W.—Class exercise on Laredo. New York State Education 19:149-52, November 1931.

Abrams, A. W.—Some fundamentals of visual instruction. New York State Education 19:48-49, September 1931.

Abrams, A. W.—Visual instruction in New York state schools. Education 52:284-87, January 1932.

Aughinbaugh, B. A.—The application of the motion picture to the problem of the rising cost of education. Educational Screen, 10:193-94, 197, September 1931.

Aughinbaugh, B. A.—The motion picture and the school. Educational Screen 9:228-29, October 1930.

Avery, R.—Blackboard picture for Christmas. Instructor 41:50, December 1931.

Avery, V.—Present day musical films and how they are made possible. Etude 49:16-17, January 1931.

Bailey, L. M.—16-mm film in industrial efficiency work. International Review of Educational Cinematography 3:537-41, June 1931.

Barnick, C. H.—Is cinematography a separate art form? International Review of Educational Cinematography 3:534-36, June 1931.

Boykin, E. M.—Cinema rooms revive the intimate theater. House Beautiful 71:442-45, June 1932.

Boylston, E. R.—Mother Goose pageants. School Arts Magazine 30:317-19, January 1931.

Boylston, E. R.—Using waste material in creative art. School Arts Magazine 30:381, February 1931.

Bragdon, C. S.—Motion pictures in a junior high school. Educational Screen 9:103-104, April 1930.

Cameron, J. R.—Motion pictures with sound. New York, Cameron Publishing Co., 1929.

Chew, W. N.—Say it with movies. Survey 66:104-105, April 15, 1931.

Covell, A. H.—A study of motion pictures and slides. Educational Screen 11:12, January 1932.

Crabtree, J. I.—Verichrome film, its properties and methods of handling. American Photography 26:336-43, June 1932.

Davis, M. D.—Lectures without the lecturer. School Life 16:142, April 1931.

Dent, E. C.—Relation of publicity to the visual instruction program; abstract. National Education Association Proceedings 1931:950-53.

Educational Screen—Films for Washington and Lincoln programs. 11:20, January 1932.

Educational Screen—Talking picture in education as England sees it. 10:231, October 1931.

Elementary School Journal—Instructional value of sound motion pictures. 32:4-6, September 1931.

Elementary School Journal—Visual education in Wisconsin: pictorial history of scenes, customs, resources, etc. 31:654-55, May 1931.

Emery, J. N.—The motion picture as a classroom aid. Educational Screen 9:164-65, June 1930.

Encyclopaedia Brittannica—Illustration of books 12:106-108.

Enlow, E. R.—More statistical interpretation of the Knowlton-Tilton Experiment. Educational Screen 10:259-60, November 1931.

Enlow, E. R.—Some tentative standards for city visual education programs. Educational Screen 10:167-69, June 1931.

Enlow, E. R.—Statistically speaking—a flagrant misinterpretation. Educational Screen 8:228, October 1929.

Evans, M.—Visual instruction program. Sierra Educational News 27:40-41, December 1931.

Faithfull—Picture-statistics. New Era 12:280-81, August 1931.

Fandrei, M.—Visual education equipment data, public residential schools in the United States. Volta Review 34:64-68, February 1932.

Fox Film Corporation—Sound motion pictures as a factor in education. 850 Tenth Avenue, New York City, 1931.

Fisher, N. L.—Animals in illustration. School Arts Magazine 28:604-606, June 1929.

Fisher, N. L.—Make-believe homes. School Arts Magazine 28:418-21, March 1929.

Franklin, G. T.—Metal films. School Science and Mathematics 32:78-81, January 1932.

Gabriel, P.—Visual aids to instruction. Journal of Education 114:93-95, September 14, 1931.

Glover, J. G.—The use of motion pictures in business courses. Educational Screen 9:104-105, April 1930.

Goins, J. L.—Utilization of blackboards by high school teachers. School Review 40:381-86, May 1932.

Grassmuck, E.—New geographic education. New Era 12:230-33, July 1931.

Grosvenor, M. B.—Color camera's first aerial success. National Geographic Magazine 58:344-53, September 1931.

Hammond, I.—Organized educational trips. School 20:216-17, November 1931.

Hampton, B. B.—A history of the movies. New York, Covici-Friede, 1931. Reviewed in the Educational Screen 11:81, March 1931.

Hankin, G. T.—Mechanical aids in education. New Era 12:261-63, August 1931.

Haworth, Harry H.—Administration of a department of visual instruction. Junior-Senior High School Clearing House 5:218-22, December 1930.

Hoban, C. F.—Responsibility of teacher training institutions for the preparation of teachers in the technics of visual and other sensory aids; abstract. National Education Association Proceedings 1931:957-59.

Hoban, C. F.—English and German students make long trips at low cost. School life 16:146-47, April 1931.

Hopkins, B. S., and **Dawson, H. G.**—An experiment in visual education in elementary college chemistry. Educational Screen 11:136-37, 169-170, May, June 1932.

International Review of Educational Cinematography—St. Elizabeth in our days. 3:1051, November 1931.

Journal of Home Economics—Sound motion pictures and education; results of the test in Washington, D. C. 23:967, October 1931.

Keith, Mrs. R. G.—Visual method of library instruction. Wilson Bulletin for Librarians 6:694-700, June 1932.

Kruse, W. F.—How one school makes its own teaching films. Educational Screen 10:109-110, April 1931.

Lewin, W.—Photoplays of interest to English teachers. English Journal 21:55-57, January 1932.

Lewin, W.—Use of visual aids in literature. English Journal 20:589, September 1931.

Lewis, Park—The cinema and the eye. Educational Screen 10:297-98, December 1931.

Literary Digest—Teaching by talkies. 106:23, August 16, 1930.

Magill, W. H.—Visual education vs. degrees of reality in experiencing. Educational Outlook 6:83-89, January 1932.

McClusky, F. Dean—The administration of visual instruction in the public schools. Junior-Senior High School Clearing House 5:207-14, December 1930.

McClusky, F. Dean—Visual Instruction—its value and its needs. New York, Mancall Publishing Co. (In preparation.)

McClusky, Jenkins, Knowlton, and Merton — A syllabus of a proposed textbook on visual instruction. (Inquire of E. C. Dent, Bureau of Visual Instruction, University of Kansas, Lawrence, Kansas)

McDaniel, N.—Sources of information and supplies helpful in visual education. Volta Review 34:68-69, February 1932.

McDaniel, N.—Visual education. Volta Review 34:60-62, February 1932.

McIntire, G.—Visual instruction in Indiana. Educational Screen 11:139-40, May 1932.

Meador, M.—Art pictures an effective aid in the teaching of geography? Educational Methods 11:97-103, November 1931.

Miehling, Rudolph—Sound projection. Mancall Publishing Corp. 1929.

Miller, L. P.—Practice teaching in the use of visual aids; the Bucknell plan. Educational Screen 10:241, October 1931.

Mixsell, F. H.—Visual aids in history teaching. Sierra Educational News 27:44-45, November 1931.

National Education Association Journal—New educational talking pictures. 20:128, April 1931.

Nature Magazine—Photography's advance 19:198, 273, Supplement 2, April, June 1932.

Newcomb, R. V.—Cinematography at the University of South Dakota. Educational Screen 11:70-71, 91, March 1932.

Neblette, C. B.—High-frequency photography. Photo-Era 65:231-32, 289-91, October, November 1931.

Nally, E. J., Jr.—The sound film in education. Educational Screen 11:39-41, 60, May 1932.

Osburn, D. F.—Use of visual aids in teaching general science by a contract method. California Quarterly of Secondary Education 7:14-18, October 1931.

Perkins, E. W.—Drawing from motion pictures. Educational Screen 10:105-107, April 1931.

Persing, E. C.—Visual materials and science teaching. Science Education 16:18-23, October 1931.

Photo-Era—New Victor animatophone projector. 66:53-55, January 1932.

Pittsburgh, Pa., Board of Education—Handbook for the use of visual aids—elementary schools, junior-senior high schools, 1929.

Norton, R. E.—The picture lending library of the Buffalo Museum of Science. Educational Screen 11:132, May 1932.

Poole, I.—Motion picture in the classroom. Educational Screen 10:169-71, June 1931.

Popular Science—Lifelike depth given to movies. 121-22, July 1932.

Pub'ishers' Weekly—On the illustration of books. 119:1787, April 4, 1931.

Reitze, A. W.—Organization of a city department of visual aids. Educational Screen 11:4-6, January 1932.

Reitze, A. W.—Suggested plan for a city department of visual aids. Educational Screen 10:261-62, November 1931.

Rich, S. G.—Illustration of children's books. Nation 129: 589-90, November 20, 1929.

Rinehart, M. R.—Your child and the movies. Ladies Home Journal 48:8-9, April 1931.

Rotha, Paul—The film till now. London, Jonathan Cape.

Santelli, C.—Children and war films. Living Age 338:664-70, August 1931.

Saul, L. B.—Honor and glory, Virgil Mantuan, be to thy name. Progressive Education 8:589-96, November 1931.

School and Society—Courses in the mechanics of visual instruction in the American Museum of Natural History. 32:723, November 29, 1930.

School and Society—Educational films in Great Britain. 32:721-22, November 29, 1930.

School and Society—Films and exhibits of the Children's Bureau. 33:48-49, January 10, 1931.

School and Society—Science fair for children. 34:724-25, November 28, 1931.

School and Society—School museums of Philadelphia and Pennsylvania. 33:583, May 2, 1931.

School and Society—Talking films in English schools. 33: 556-57, April 1931.

School and Society—Use of education films in Great Britain. 32:85-86, July 19, 1931.

School Review—Deriving values from educational tours; reply to J. M. Clifford. 40:411-12, June 1932.

School Review—Studying the problem of motion pictures in England and America. 39:491-95, September 1931.

Science—Stereoscopic projection for motion pictures. n. s. 72: sup 12, November 7, 1931.

Scientific American—Color still photography for amateurs. 146:366, June 1932.

Selzer, C. A.—Psychological principles of visual education. Pennsylvania School Journal 80:359-60, January 1932.

Sigman, James G.—The organization of a department of visual education. Junior-Senior High School Clearing House 5:214-18, December 1930.

Smith, H. N.—Organizing the visual instruction program. High Points 13:40-44, November 1931.

Smith, L. M.—Pageantry and the school music department. Etude 49:405, June 1931.

Smith, M. E.—Trip to Palestine; teaching social science through activities. Grade Teacher 49:287, December 1931.

Spicer, E. V.—Visual education in the city public schools. Volta Review 34:63-65, February 1932.

Texas Fire Insurance Department—Rules and regulations of motion picture theatres. Austin, Texas, 1929. 17 p.

Thomas, K. C.—Teacher-and-pupil-made slides; utilizing the creative talent of pupils in illustrating school subjects. Grade Teacher 49:270-71, December 1931.

Tonsor, C. A., Jr.—Visual material, its use in secondary school classes. High Points 13:48-49, September 1931.

Turner, G. L.—Motion pictures in high school literature. English Journal 20:572-75, September 1931.

Twogood, A. P.—Visual aids in teaching fundamentals of mechanical drawing. Industrial Education Magazine 33:308, June 1932.

Vande Erve, J. and J. M.—Modification in lantern slide projection technique diagram. Science n. s. 72:532-33, November 21, 1930.

Viborel, L.—Hygiene teaching in schools by cinematography. International Review of Educational Cinematography 3:639-51, July 1931.

(*Concluded on page* 255)

SCHOOL DEPARTMENT

CONDUCTED BY DR. F. DEAN McCLUSKY

Director, Scarborough School, Scarborough-on-Hudson, N. Y.

Using Slides With the Study of Geography in the Fourth Grade

VESTA J. BLAISDELL

THE following is a report of conversation, which took place between a group of fourth grade children and their teacher during the showing of a set of slides in color on the country near the Tigris and Euphrates Rivers in Asia, Mesopotamia. This group of pictures was used as a review in the study of Geography. The imaginative journey to this distant land was much more vivid after seeing the slides.

Following the discussion of the meaning of Mesopotamia, the first slide was shown. (The teacher's remarks are printed in Italics.)

"Do they have much rain in this land?"

"The land is a desert."

Slide 2

"This is a site of a destroyed city on the Euphrates River." *"What are the people doing?"*

"They are carrying the bricks down the hillsides to be used in making their own house."

Slide 3

"This is a village on another river near the Euphrates River. What is the name of this river?"

"The Tigris River."

Slide 4

"We are now back on the Euphrates River south of Babylon."

The story of Babylon was discussed.

Slide 5

A little girl asked, "Why is the ground so high?" It was explained that the buildings had crumbled and in turn those buildings had crumbled away.

"Why do the bricks crumble?"

"The people make bricks from the clay soil and dry them in the sun."

"Their bricks are much larger than ours," one child observed.

"That is one of the ways the natives make a living."

Slide 6

"I know what that is. That is travelling on a raft on the Tigris River from Bagdad to Basra."

There were a great many people on the raft. Their clothing was discussed and compared with other pictures of these people travelling on a steamer from Basra up the Tigris River.

"They wear loose clothing."

"Do people living in a hot, dry land wear more or less clothing that people living in a hot, wet land?"

"They wear more clothing in a hot, dry land."

"Why?"

"Because they need protection from the sun."

"What is there to protect people who live on a hot, wet climate?"

"The trees."

"Is this a large raft?"

"No, the large ones are about fifty feet long."

"What keeps the raft from sinking with so many people on it?"

"Goat skin bags are filled with air and tied on the bottom of the raft."

"What do goat skin bags look like?"

"Like funny shaped balloons."

"How many goat skin bags do they have to use?"

"That depends on the size of the raft. The large rafts must use about a thousand skins. This raft probably used about three hundred skins."

"Notice the sand bars in the river."

"The river must be shallow there."

"What is very likely to happen at this point in their journey?"

"If a rock punctured some of the goat skin bags, they would have to stop along the bank of the river and repair it before they could go on."

"How would they know that some of the bags had burst?"

"One end of the raft would drag in the water."

Slide 7

"They are getting water from the river."

"The donkeys are hitched to long ropes. Goat skin bags are fastened on the ropes. The bags are let down into the river and filled with water; then they pass over the pulleys. When they are high up on the framework, the water pours out into the ditch. The ditch carries the water to the gardens."

"They have to water their gardens because there is very little rain."

"They want a good crop of dates."

Slide 8

"Those are water buffaloes."

"They do work for the people."

"One of them has his head under the water and his back is out of the water."

Slide 9

"That is a narrow street in Bagdad."

"The houses are made of bricks that they get from the ruins."

Slide 10

"This is a market place."

DA-LITE

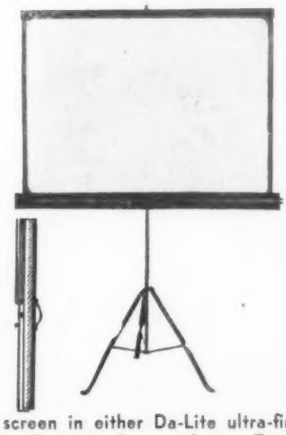
presents the utmost in

SCREEN VALUES

. . . the same fine super-quality projection surfaces that make Da-Lite Screens standard in the world's finest movie palaces—plus ingenious collapsible frames that provide easy portability . . . . constant development of new models keeps Da-Lite Screens a step ahead—and insures you the finest always . . . Recognized leadership means large production and resultant economies that permit you to buy Da-Lite quality at moderate cost.

WORLD'S LARGEST SCREEN MANUFACTURERS

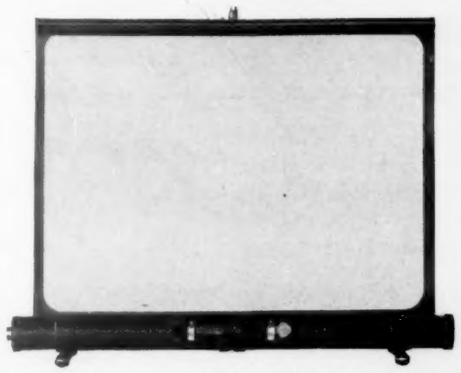
The DA-LITE CHALLENGER



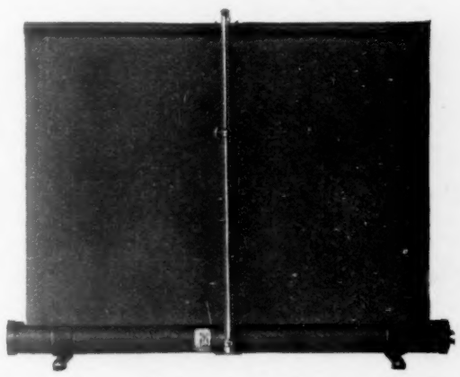
Super-surface screen in either Da-Lite ultra-fine glass bead, or extra bright Da-Lite silver surface. Tripod and stand made in a single unit to collapse snugly into a compact, easily carried roll. Tripod tube is slotted to hold an accurately fitted key, provides easy accurate height adjustment, and keeps screen surface in focus. Sturdy, strong, beautifully finished and moderately priced.

30x40" — $20.00 36x48" — $25.00
39x52" — $30.00

The New MODEL "F"



Stands firmly on its own folding feet on any table or desk. Gives you the advantage of the famous Da-Lite glass bead projection surface, plus compactness, simplicity and easy portability.



The upright support bar seen in this rear view of the Model "F" folds down parallel to the case when screen is collapsed for carrying.

Closed, the Model "F" is a small, neat roll. It is handsomely finished in crackle brown lacquer.

22 x 30",	$13.50	39 x 52",	$22.50
30 x 40",	$16.00	45 x 60",	$30.00
36 x 48",	$18.00	52 x 72",	$40.00

SEE THEM AT YOUR DEALERS —OR SEND FOR ALL DETAILS

The better dealers carry full lines of Da-Lite Screens in stock. If there is none near you, write to us direct for complete illustrated literature describing the Da-Lite line of Screens for every use.

THE DA-LITE SCREEN CO., INC.

2721 N. CRAWFORD AVE., CHICAGO, ILL.

LIMITED OFFER!

TO VISUAL INSTRUCTION WORKERS

WE HAVE FIFTY

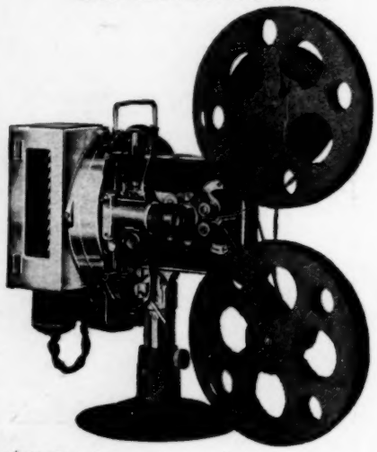
VICTOR MASTER 16 mm. PROJECTORS TO DISPOSE OF IN A HURRY . . .

EACH PURCHASER OF ONE OF THESE VICTOR PROJECTORS PRICED AT **$197.50**

will receive ABSOLUTELY FREE a full season's FILM RENTAL SERVICE OF 100 Reels of 16 mm. films from our famous Library of Educational and Entertainment subjects. These 100 Reels may be shown at any time during the present school year ending June, 1933. Selections to be made from our latest complete catalog of Educational Subjects, Feature Pictures, Comedies and Novelties. The regular retail value of this Rental Service is $131.25.

THE VICTOR MASTER

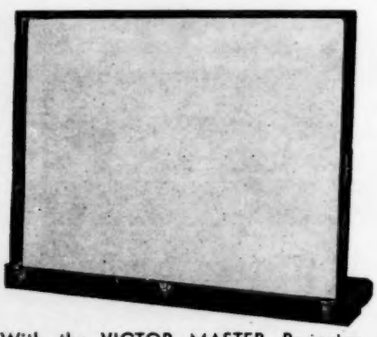
The High Standard of Performance of the VICTOR MASTER 16 mm. PROJECTOR is well and favorably known.



AND IN ADDITION

Each Purchaser of a VICTOR MASTER 16 mm. Projector will receive FREE, a NEFU Blue Crystal Beaded Screen, size 39" x 52". The regular retail value of this screen is $25.00.

THE NEFU SCREEN



The NEFU Blue Crystal Beaded Screen– 39" x 52" size is ideal for the Classroom, and can be used for Daytime Projection.

With the VICTOR MASTER Projector, the NEFU Blue Crystal Beaded Screen and Your Programs all Scheduled for the School Year, you can prepare for Visual Instruction, with your biggest problems solved. ORDER TODAY.

HERMAN ROSS ENTERPRISES, INC.

630 Ninth Ave., New York

SEND FOR BOOKLET V, GIVING FULL DETAILS OF THIS OFFER

"In the bazaars they sell carpets, jewelry, dates, and grains."

"Bazaars are little booths along both sides of the street."

Slide 11

"They are digging for ruins."

"This is called excavating."

Slide 12

"That tent is made of camel's hair cloth."

"It is just the color of camels."

"The women are grinding grain."

"They are Arabian people."

Slide 13

"This is a tomb where they bury their dead."

Slide 14

"They are making boats."

Slide 15

"There is another ruin."

"Yes, this is the ruins of an old palace."

Slide 16

"This is a picture of some Jewish Scribes at the tomb of Ezekiel near Babylon."

"They must be writing stories of the Bible."

"Yes, they are copying parts of the Bible in different languages."

A Roman House

ETHEL M. HILL

SOME time ago the Art Museum in our city asked the art department to construct models of the habitations of man—these to be loaned to the public schools later.

We chose a Roman house because the majority of our pupils are Italians. This created great interest. Some of our children had been in Pompeii and had seen the House of Pansa so we decided to construct that as far back as the open court.

This involved much research work here in our library and local museum and also in New York City in the Metropolitan Art Museum where we studied especially the Roman Court which has been there for so many years. Many sketches were made of Roman articles like furniture, lamps, pottery, chariots, etc.

A plan was made to scale of Pansa's house and the frame was constructed. A group of boys made a special study of the ancient method of tiling roofs and then brought their study down to modern times by observing closely the roofs of some of our gas stations. After a long time of thought and discussion they decided to get a building paper in the neighborhood, cut and shape dowel sticks to the correct size, cover the latter with the paper and paint a tile red. This proved very successful and effective.

Then groups were formed for the various steps that followed—the construction of the furniture, the

Do You Teach Geography?

IF you teach or direct the teaching of Geography, you will want to investigate The Journal of Geography, an illustrated monthly magazine owned by the National Council of Geography Teachers, and published especially for teachers.

THE JOURNAL GIVES YOU—Supplementary material for students and teachers . . . confidence by enabling you to know the best and thus keep several leagues ahead of the non-subscribers . . . success to teachers and students who sincerely want it.

If you are not familiar with this splendid magazine pin this ad to your letterhead and the next copy will be sent to you FREE of charge.

THE JOURNAL OF GEOGRAPHY

3333 Elston Ave.

Chicago, Ill.

K-3

Photographs Tell Stories

Learn how to make your camera become a skilled story teller. It's all in understanding its capacities and limitations.

There is joy in making good photographs . . . Read how others do it. Subscribe to that beautiful, monthly magazine.

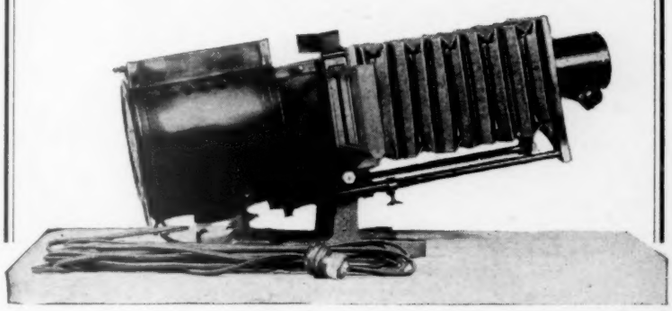
Camera Craft

It's devoted to photography. $2.00 a year, sample on request.

CAMERA CRAFT PUBLISHING COMPANY

703 Market Street, San Francisco, California

Your Stereopticon Is Only as Good as Its Illuminant



Many a teacher does not use an available projection lantern because it contains a lamp burned dim with use. Do not condemn her. Provide your lanterns with new lamps at least once a year. You will then assure projection work that will make vivid and useful pictures, which will be real aids in teaching.

New lamps may be secured from the manufacturers of your projection lanterns or from

Keystone View Company

Meadville, Penna.

"THE WORLD AND ITS PEOPLE"
High-grade, up-to-date photographs of all parts of the world for VISUAL EDUCATION.
Photographs sent on approval.
PUBLISHERS' PHOTO SERVICE, Inc.
105 West 40th St., New York, N. Y.

RADIO-MAT STEREO-TYPE RADIO MATS DAILY NEW YORK IN THE STATIONERY OF THE SCREEN
For Screen Projection
Write for free samples.
RADIO-MAT SLIDE CO., Inc.
1674 Broadway, New York, N. Y.

modeling of statues, the storekeepers, the members of Pansa's family, the pottery, bread and cakes for the cook shop, fruits of those times for the fruit store, etc.

One group drew the patterns for the walls and the mosaic floor, traced these to the walls and floor and others painted the designs following closely the colors used in Roman times.

Some of the girls made the cushions, draperies for the doorways, mattresses for the peculiar Roman beds, and awnings and garlands for the shops.

Much of the shopping had to be done. This was the work mostly of the girls who searched the stores for suitable material and colors. A general color scheme of Pompeiian red and black, some yellow green, yellow and light blue have been used throughout. The girls found a beautiful red tapestry for the curtains, red and black striped neckties for the cushions and one day at a sale of bridge napkins obtained very suitable material for the shop awnings.

One group of boys spent a share of their week-end sketching the great bronze doors of our Art Museum and the Hall of Records from which to make a design for our two-leaved door at the entrance to the vestibule.

After long deliberation it was decided to make a frame and cover it with heavy linoleum to be used for the foundation and street. A pattern of the street and sidewalks representing the paving of ancient times was drawn on paper, transferred to the linoleum and cut out with wood block tools. It will be painted later.

This project is not finished. The painting of the floors must be completed, a fountain made, the outside walls stuccoed and painted, chariots constructed and horses modeled.

When completed it will represent the work of four or five classes, all of which have had their eyes opened to the fact that art in all its phases has entered into the lives of all people—that the Roman ancestors of most of the pupils based their whole lives upon the great principles of art—consciously or unconsciously—and with the Greeks have given us the heritage of an appreciation of the beautiful in a setting of usefulness that has never been surpassed.

NOW! SOUND PICTURES!
GENERAL ELECTRIC EDUCATIONAL FILMS
Technical and Nontechnical
With Synchronized Sound or Silent

The General Electric Company, through its Visual Instruction Section, has produced many educational pictures of both a technical and nontechnical nature. These films are intended for exhibition in the interest of education, public welfare, and commercial development. They deal with the electrical industry, its accomplishments, and its relation to other industries.

General Electric films — 35- and 16-mm. silent and 35-mm. sound — are lent free of charge except for transportation costs. Write to the nearest of the following General Electric offices for a copy of Motion Picture Catalog, GES-402B.

1 River Road, Schenectady, N. Y.
1405 Locust St., Philadelphia, Pa.
230 S. Clark St., Chicago, Ill.
200 S. Main St., Salt Lake City, Utah
1801 N. Lamar St., Dallas, Texas
84 State St., Boston, Mass.
925 Euclid Ave., Cleveland, Ohio
329 Alder St., Portland, Oregon
187 Spring St., N. W., Atlanta, Ga.

Special Distributor—
*Department of Visual Instruction, University of California, Berkeley, Calif.

*A small service charge is made for films ordered from this office.

GENERAL ELECTRIC

The Church Field

(*Concluded from page* 245)

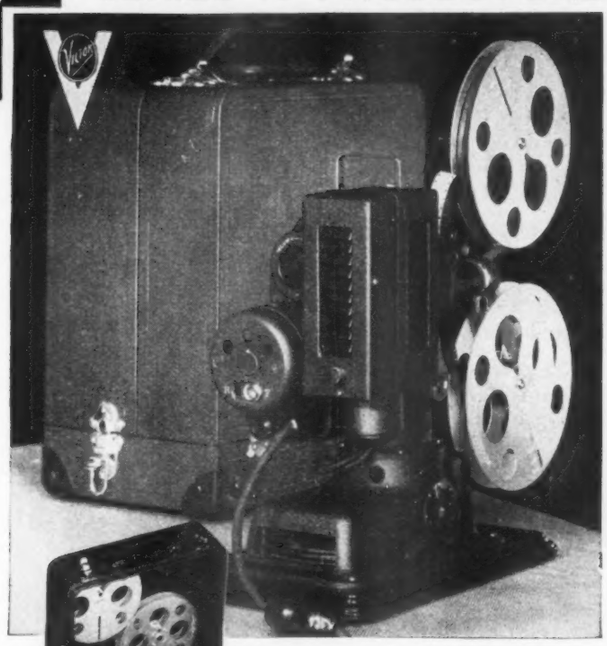
order to visit the Jesuit missions on the banks of the Yukon. The reverend gentleman also covered some 300 miles on foot, carrying over 100 pounds of baggage on his back in order to reach Aniakchak, the great erupting volcano of Alaska.

"The account of this trip is both simple and highly impressive. It was made with temperatures that went as low as 50 below zero, in tempests of snow and winds as violent in their way as the simoons of the Saharan regions. Father Hubbard brought back a film on the life of the missionaries and Eskimos of Alaska, one of those unpretending pictures without other intent than to show things as they really are." (Father Hubbard is again in Alaska. He has two Bell & Howell Eyemo cameras.)

"The documentary cinema is already in the debt of the missionaries for some notable pictures, but still, more may be expected of them. The improvements in cinema technique have placed at their disposal a magnificent instrument, which in some countries can only be used by persons acting under the impulse of a powerful ideal, faith or science or maybe both."

New

SERIES 10 PROJECTORS



PREMIER HI-POWER — MODEL 10FH
WITH No. 8 CENTER-OPENING CASE

UP goes the VALUE down goes the price!

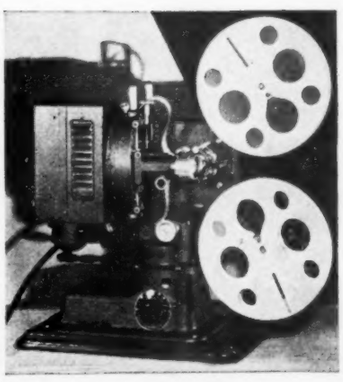
AGAIN VICTOR steps ahead . . . far out in front of the "crowd" . . . with outstanding refinements and reduced prices that mark the beginning of a NEW ERA in 16 m/m Motion Picture Projectors.

ILLUMINATION, PERFORMANCE and BEAUTY such as you have never before witnessed in 16 m/m projection equipments await you in these new VICTORS . . . available in 3 models—MODEL 10 REGULAR with 400 Watt-110, 115, or 120 Volt Lamp; PREMIER *HI-POWER MODEL 10FH with the Powerful 100 Volt-400 Watt Biplane Filament Lamp; UNIVERSAL *HI-POWER MODEL 10RH which is equipped with the brilliant, economical 165 Watt-30 Volt Lamp, but which also accommodates the 400 W.-100 V., 375 W.-75 V., as well as all regular voltage lamps.

Write for literature which illustrates and describes the many new features and improvements which Victor has embodied in these finest of 16 m/m Projectors . . . and ASK YOUR DEALER TO DEMONSTRATE.

*(*The double-strength HI-POWER OPTICAL SYSTEM is now standard equipment on Models 10FH and 10RH.)*

Greater
ILLUMINATION
CONVENIENCE
UTILITY
BEAUTY



SERIES
10
•
THREE
16MM
MODELS

$143.50 UP

VICTOR ANIMATOGRAPH CORP.

DAVENPORT, IOWA, U. S. A.

Eastern Branch: 242 W. 55th Street, NEW YORK CITY
West Coast Branch: Quinby Bldg., 650 So. Grand, LOS ANGELES, CAL.

ASK YOUR DEALER TO DEMONSTRATE . . . . . NOW

AMONG THE PRODUCERS

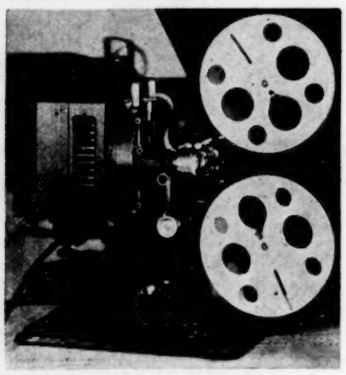
Where the commercial firms — whose activities have an important bearing on progress in the visual field — are free to tell their story in their own words. The Educational Screen is glad to reprint here, within necessary space limitations, such material as seems to have most informational and news value to our readers.

Victor Introduces New Series Projectors

The Victor Animatograph Corporation, Davenport, Iowa, is featuring a complete new line of projectors consisting of three highly improved models at reduced prices.

Taking the place of the previous Models 3 and 7 is the new Model 10 Regular, which is priced at $143.50 against the old price of $175.00. This Model is supplied with the 400 Watt-110, 115 or 120 Volt lamp, but may also be used with 200 and 300 Watt lamps if desired. In addition to the well known exclusive Victor Features, the new model has many improvements. It is said to be much more quiet and smooth running than its brilliantly-performing predecessors.

The Premier Hi-Power Model 10FH is the feature model of the new Victor line. The powerful 400 Watt-100 Volt biplane filament lamp is supplied as standard on this equipment, but 200, 300 and 400 Watt lamps of line voltage ratings may also be used. The recently perfected Victor Hi-Power optical system which is said to be twice as efficient as the regular direct optical system, is supplied as standard equipment on the Model 10FH. This, coupled with the use of the intensely brilliant 100 Volt, 400 Watt lamp, gives very intense illumination. A unique feature of the lamp resistance in this model is its adjustability, in five volt steps, for line voltages of from 100 to 120 volts. This is said to eliminate the hazard of overloading and shortening the life of the extremely sensitive 100 Volt lamp. Other interesting new features of the Premier Hi-Power model are a new rack-and-pinion tilting device and an automatic pilot which turns on when the projection lamp is extinguished by a turn of the resistance control knob.



New Model 10FH Premier Hi-Power Projector

The Victor Universal Hi-Power Model 10RH is identical to the Premier Hi-Power except for the lamp resistance. The built-in universal resistance of the 10RH is of the variable rheostat type and is equipped with separate motor for forced cooling and with ammeter and variable resistance control. This type of resistance is said to be preferable to fixed resistance for the reason that it permits lamps to be operated at maximum efficiency at all times regardless of line voltage fluctuations. Also, it permits the user to obtain any degree of intensity desired, from a dim glow up.

The Premier Hi-Power Model 10FH will list at $156.00 and the Universal Hi-Power Model 10RH at $186.00—which represent substantial reductions. All Victor Projectors are now priced with carrying cases separate. Two types of cases are offered: a side opening style and a lift-off style.

DeVry Buys Q.R.S. DeVry Corporation

An important recent business development was the purchase of the Q. R. S.-DeVry Corporation by Herman A. DeVry, Inc. With the acquiring of the Q. R. S.-DeVry Corporation, Herman A. DeVry, Inc. will move their plant to their former location, taking over the building at 1111 Center Street which Mr. DeVry built to house this company in 1922.

After three years at the above location, Mr. DeVry merged the DeVry Corporation with the Q. R. S.-Corporation in 1929, forming the new Q. R. S.-DeVry Corporation. In 1930 Mr. DeVry left this company and organized his new company, Herman A. DeVry, Inc.

In taking over the Q. R. S.-DeVry Corporation the new company plans a considerable increase in manufacturing schedule, and the famous DeVry Sound-on-Film Projector, which has already received recognition as an important force in modern selling and teaching and which is now manufactured by Herman A. DeVry, Inc., will be continued. In addition, the Corporation will manufacture sound heads for theatrical machines, amplifiers, public address systems and a recently developed 35 mm. sound camera complete with amplifier to sell at a popular price.

New developments are predicted in the 16 mm. field, and a complete service organization will handle all service and repairs on all types of motion picture equipment, sound or silent, 35 or 16 mm.

The main office will be located at 1111 Center Street, Chicago, Illinois, and preparations are being

made for the reorganization of this new plant on a greatly increased production basis.

New Releases in Stillfilm Library

Stillfilm Incorporated, of Los Angeles, has added many new subjects to its library of some 60,000 pictures which covers practically every phase of the elementary and junior high curricula and a multitude of subjects suitable for senior high school work, especially as regards the social studies.

The newly released Stillfilm sets include twelve on Geography, one on the Telephone Industry, three on History, one on Nature Study and one Primary Story.

Filmo Equipment Now Guaranteed for Three Years

The Bell & Howell Company announce the extension of the guarantee on all Filmo cameras and projectors to three years. A two year guarantee has been given on Filmos since the first models were marketed in 1923.

An additional new feature of the Bell & Howell guarantee, and one which is believed to be unique in the photographic industry at least, is the provision for free annual cleaning and lubrication for the duration of the guarantee. Under the terms of this provision, the owner may have his camera and projector thoroughly gone over once a year for three years. It is expected that this free service will be commonly requested just previous to periods of intensive equipment use—for instance, on cameras, in the spring, ahead of the vacation season. Thus users can, without cost, assure themselves in advance of carefree operation when such operation is most desired.

Supplementary References for Students

(*Concluded from page* 247)

Walters, O. S.—Projected visual aids in social teaching. Kansas Teacher 33:16, September 1931.

Watkins, Ralph—The learning value of some motion pictures in high school physics and general science as an illustration of a simplified technique in educational experimentation. Educational Screen 10:135-37, 156-57, May, June 1931.

Waugh, F. A.—Children need not be chloroformed. School and Society 33:665-67, May 16, 1931.

Weber, J. J.—Visual aids in education. Chicago, Educational Screen, 1930. 215 p.

Williams, E. L.—Practical study of the relation of industry to education; tour of the central states. Industrial Education Magazine 32:257-60, February 1931.

Wyman, C. E.—Visual education in a representative junior high school. School and Society 33:592-93, May 2, 1931.

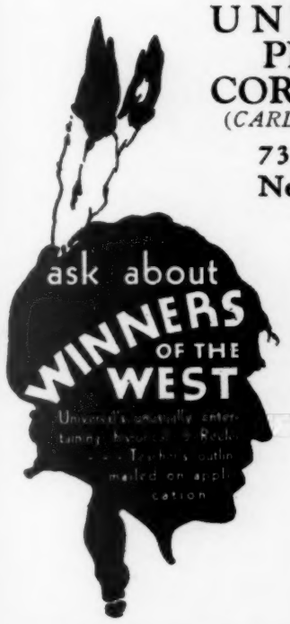
Yates, R. E.—Technician talks about the talkies. Scientific American 143:384-85, November 1930.

Zimmerman, B. L.—Visual aids in the city schools. Sierra Educational News 27:12-13, October 1931.

Your Guide to the Biggest and Best in Current Motion Pictures!

Write today for free non-theatrical Catalog 78.

NON-THEATRICAL DEPARTMENT
UNIVERSAL PICTURES CORPORATION
(*CARL LAEMMLE, Pres.*)
730 Fifth Ave.
New York City



READY NOW
Evolution Made Plain in Clarence Darrow's
"MYSTERY OF LIFE"
7 Reels
Write for Information

HERE THEY ARE!

A Trade Directory for the Visual Field

FILMS

Bray Pictures Corporation (3, 6)
729 Seventh Ave., New York City.

Carlyle Ellis (1, 4)
53 Hamilton Terrace, New York City
Producer of Social Service Films

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Eastman Teaching Films, Inc. (1, 4)
Rochester, N. Y.

Edited Pictures System, Inc. (1, 4)
130 W. 46th St., New York City

General Electric Company (3, 6)
Visual Instruction Section,
Schenectady, N. Y.
(See advertisement on page 252)

Herman Ross Enterprises, Inc., (3, 6)
630 Ninth Ave., New York City
(See advertisement on page 251)

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

Modern Woodmen of America (1, 4)
Rock Island, Ill.

Pinkney Film Service Co. (1, 4)
1028 Forbes St., Pittsburgh, Pa.

Ray-Bell Films, Inc. (3, 6)
817 University Ave., St. Paul, Minn.

Society for Visual Education (1, 4)
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 226)

United Projector and Films Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Universal Pictures Corp. (3)
730 Fifth Ave., New York City
(See advertisement on page 255)

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

Y. M. C. A. Motion Picture Bureau (1, 4)
347 Madison Ave., New York City
300 W. Adams Bldg., Chicago, Ill.

MOTION PICTURE MACHINES and SUPPLIES

Ampro Projector Corp. (6)
2839 N. Western Ave., Chicago, Ill.
(See advertisement on inside front cover)

Bell & Howell Co. (6)
1815 Larchmont Ave., Chicago, Ill.
(See advertisement on inside back cover)

Eastman Kodak Co. (4)
Rochester, N. Y.
(See advertisement on outside back cover)

Edited Pictures System, Inc. (1)
130 W. 46th St., New York City

Herman Ross Enterprises, Inc.
630 Ninth Ave., New York City
(See advertisement on page 251)

Ideal Pictures Corp. (1, 4)
26 E. Eighth St., Chicago, Ill.

International Projector Corp.
90 Gold St., New York City

Regina Photo Supply Ltd. (3, 6)
1924 Rose St., Regina, Sask.

United Projector and Film Corp. (1, 4)
228 Franklin St., Buffalo, N. Y.

Williams, Brown and Earle, Inc. (3, 6)
918 Chestnut St., Philadelphia, Pa.

PHOTOGRAPHS and PRINTS

Publishers' Photo Service, Inc.
105 W. 40th St., New York City
(See advertisement on page 252)

SCREENS

Da-Lite Screen Co.
2721 N. Crawford Ave., Chicago
(See advertisement on page 249)

Herman Ross Enterprises, Inc.
630 Ninth Ave., New York City
(See advertisement on page 251)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

SLIDES and FILM SLIDES

Conrad Slide and Projection Co.
510 Twenty-second Ave., East
Superior, Wis.

Eastman Educational Slides
Iowa City, Ia.

Edited Pictures System, Inc.
130 W. 46th St., New York City

Herman Ross Enterprises, Inc.
630 Ninth Ave., New York City
(See advertisement on page 251)

Ideal Pictures Corp.
26 E. Eighth St., Chicago, Ill.

International Artprints
64 E. Lake St., Chicago, Ill.

Keystone View Co.
Meadville, Pa.
(See advertisement on page 251)

Radio-Mat Slide Co., Inc.
1674 Broadway, New York City
(See advertisement on page 252)

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 226)

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 225)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

STEREOGRAPHS and STEREOSCOPES

Keystone View Co.
Meadville, Pa.
(See advertisement on page 251)

STEREOPTICONS and OPAQUE PROJECTORS

Bausch and Lomb Optical Co.
Rochester, N. Y.

Herman Ross Enterprises, Inc.
630 Ninth Ave., New York City
(See advertisement on page 251)

E. Leitz, Inc.
60 E. 10th St., New York City

Regina Photo Supply Ltd.
1924 Rose St., Regina, Sask.

Society for Visual Education
327 S. LaSalle St., Chicago, Ill.
(See advertisement on page 226)

Spencer Lens Co.
19 Doat St., Buffalo, N. Y.
(See advertisement on page 225)

Williams, Brown and Earle, Inc.
918 Chestnut St., Philadelphia, Pa.

REFERENCE NUMBERS

(1) indicates firm supplies 35 mm. silent.
(2) indicates firm supplies 35 mm. sound.
(3) indicates firm supplies 35 mm. sound and silent.
(4) indicates firm supplies 16 mm. silent.
(5) indicates firm supplies 16 mm. sound.
(6) indicates firm supplies 16 mm. sound and silent.